

DRAFT ISSUE BRIEF

CAGR D REPLENISHMENT AND WATER SUPPLIES

ISSUE STATEMENT

The Central Arizona Groundwater Replenishment District (CAGR D) provides a mechanism to replenish some of the Assured Water Supply related groundwater use within three Active Management Areas. However, the CAGR D and its members face long-term uncertainties related to the availability and costs of renewable supplies for replenishment.

- What are the long-term uncertainties for the CAGR D related to the availability of renewable supplies for replenishment?
- What issues may arise as replenishment supply costs are borne by the CAGR D and passed on to its members?
- What improvements could be made to ADWR's oversight and review criteria of CAGR D Plans of Operation that would improve the long-term viability of the CAGR D or reduce uncertainties for its new and existing members?

BACKGROUND

In 1993, the Arizona State Legislature established the framework for a groundwater replenishment authority commonly referred to as the Central Arizona Groundwater Replenishment District (CAGR D), to be operated by the Central Arizona Water Conservation District (CAWCD). The purpose of the CAGR D is to provide a mechanism for landowners and municipal water providers in the Phoenix, Pinal and Tucson Active Managements Areas (AMAs) to demonstrate one of the assured supply criteria for groundwater under the Assured Water Supply (AWS) Rules, which became effective in 1995. Without the CAGR D, some developers and water providers would not be able to meet the AWS Program criterion of consistency with the management goal of the AMA.¹ CAGR D membership allows new subdivisions and municipal water providers lacking ~~sufficient renewable supplies or infrastructure a Central Arizona Project (CAP) subcontract, or access to sufficient infrastructure to deliver CAP water or other renewable supplies, to rely upon develop using~~ groundwater while demonstrating consistency with the management goal ~~through CAGR D replenishment~~. The CAGR D mechanism thereby allows continued economic development in areas of the three AMAs without ~~renewable supplies CAP allocations~~ or with insufficient infrastructure to put their ~~renewable suppliesCAP allocation~~ to use.

To satisfy the requirement that withdrawals of groundwater are consistent with the management goal, the CAGR D replenishes ~~excess groundwater~~² pumped by or delivered to its members. In other words, CAGR D membership allows municipal water providers or landowners with an AWS to withdraw and use groundwater upfront, while the CAGR D replenishes the aquifer to offset the volume of excess groundwater withdrawn in an AMA by its members after the fact.

The CAGR D serves two types of members: member lands (MLs), which are individual subdivisions, and member service areas (MSAs), which are municipal water providers such as cities, towns, districts, or water companies that

¹ A.A.C. R12-15-722

² "Excess groundwater" is any amount of pumped groundwater beyond what is permitted by the AWS rules.

enroll ~~all of the lands within~~ their water service area. A municipal provider may enroll as an MSA in order to obtain a designation of AWS if its portfolio of water supplies includes groundwater requiring replenishment. There are currently 24 active MSAs enrolled in the CAGRDR.³

The developer of a subdivision may enroll the subdivision as a ML in the CAGRDR in order to obtain a certificate of AWS if the developer has access to a volume of groundwater equal to 100 years of the projected use ~~within-by~~ the subdivision.⁴ As of November 5, 2020, 1,194 subdivisions have enrolled as MLs in CAGRDR, encompassing over 290,000 lots.⁵ A large number of ML subdivisions, particularly in the Pinal AMA, are enrolled in the CAGRDR but have not yet been developed. The CAGRDR 2015 Plan of Operation cites approximately 140,000 enrolled but unbuilt lots across the three AMAs served by the CAGRDR.⁶

~~A municipal provider may enroll as an MSA in order to obtain a designation of AWS if its portfolio of water supplies includes groundwater requiring replenishment. There are currently 24 active MSAs enrolled in the CAGRDR.⁷~~

The CAGRDR is ~~obligated to~~ ~~tasked with~~ replenishing excess groundwater pumped by its members within three years. As excess groundwater pumping by CAGRDR members increases⁸, the CAGRDR must continually acquire water supplies for its replenishment obligations and for its replenishment reserve.⁹

~~At least every ten years, the~~ CAGRDR is required by statute to submit ~~a Plan of Operation (Plan) that conforms with the management goals of each AMA in its service area for approval~~ to the Director of the Arizona Department of Water Resources (ADWR) ~~for approval at least every ten years a Plan of Operation (Plan) that conforms with the management goals of each AMA in its service area~~. The Plan must satisfy an extensive list of statutory planning requirements, showing the CAGRDR's ability to meet projected replenishment obligations for its current and estimated near-term membership. The CAGRDR does not need to demonstrate that its supplies are available for 100 years because the 100-year AWS criteria do not apply to the CAGRDR itself.¹⁰ Consequently, the CAGRDR has the ability to utilize supplies of less than 100 years in duration but must also describe potentially available water supplies for the next 100 years to the satisfaction of the Director of ADWR. This differs from the AWS requirements for obtaining and maintaining a Certificate or Designation of AWS in which physically available supplies must be ~~acquired identified~~ and available for the full 100-year period. Since the CAGRDR can make use of shorter-term water supplies, its water supply acquisition plans are often described as not competing with other entities, including its own members who ~~must~~ seek ~~to acquire~~ long-term supplies for AWS designations.

Since its inception, the long-term uncertainty in supplies available to the CAGRDR has been an issue in part because the CAGRDR is only required to identify the water supplies available to the CAGRDR for replenishment for twenty years and because of the CAGRDR's early reliance on Excess CAP water to meet its replenishment obligations.

³ <https://cagrd.com/documents/enrollment/MSA-Enrollment-History-Member-Service-Area-List.pdf>

⁴ The role of CAGRDR and groundwater in the AWS Program is discussed in the *Groundwater in the Assured Water Supply Program Issue Brief*.

⁵ <https://cagrd.com/documents/enrollment/CAGRDR-Member-Land-Enrollment-Summary.pdf>

⁶ 2015 Central Arizona Groundwater Replenishment District Plan of Operation, p. 3-6.

⁷ <https://cagrd.com/documents/enrollment/MSA-Enrollment-History-Member-Service-Area-List.pdf>

⁸ Increases in excess groundwater pumping are projected due to several factors, including the buildout of existing CAGRDR member demands, the demands of new/future members, the depletion of alternative groundwater supplies such as groundwater allowances, and the restriction on groundwater allowances for Certificates or Designations issued after 2025.

⁹ A.R.S. §48-3771.A and A.R.S. §48-3771.C – “Except as provided by title 45, chapter 3.1, the district may replenish groundwater with central Arizona project water or water from any other lawfully available source except groundwater withdrawn from within an active management area.”

¹⁰ In its 10-year Plan of Operation, CAGRDR is required to show replenishment supplies in hand to meet replenishment obligations for 20 years as well as identify potentially available supplies for the subsequent 80 years.

Commented [MCM1]: The land itself isn't enrolled. Member service areas enroll as a service area. As their service area grows all water they deliver is subject to replenishment according to the specifics of their CAGRDR agreement.

Subsequently, numerous statutory changes as well as policy and rate adjustments by CAWCD have been implemented over time to mitigate this uncertainty. In 2003 and 2005, statutory changes were made to strengthen the ADWR Director's oversight and approval of the CAGRD Plan of Operation. Changes included requiring the CAGRD to identify water resources potentially available for the subsequent 80 years after the first 20 years of identified water resources and allowing the Director to require a revised Plan of Operation if there is either an unexpected increase in projected replenishment obligations or an unexpected reduction in water supplies available to meet the CAGRD's obligations.¹¹

The CAGRD has worked to acquire a portfolio of supplies that is expected to be sufficient to meet its annual replenishment obligations in the coming decades.¹² In its early years, the CAGRD met its replenishment obligations primarily through the use of Excess CAP water. In recent years, the availability of Excess CAP water has decreased substantially, and it will likely be reduced or entirely unavailable in the future.¹³ The CAGRD has long planned for the reduced availability of Excess CAP water and for future Colorado River shortage impacts to its other supplies. This is evidenced by the establishment of its formal water acquisition program and its requirement to develop a replenishment reserve of long-term storage credits that can be utilized to meet its obligations and enhance rate stability in times of water supply shortage or infrastructure failure. Its acquisition program is guided by principles adopted by the CAWCD Board that seek a 50/50 mix of short-term and long-term supplies in anticipation of projected increases in replenishment obligations.

To date, these efforts have resulted in the CAGRD acquiring to date over 250,000 acre-feet of the 764,502 acre-feet targeted amount for the Replenishment Reserve in the 2015 Plan of Operation. Under its acquisition program, the CAGRD has acquired a total annual supply of approximately 44,000 acre-feet per year compared to the CAGRD's average annual replenishment obligation of approximately 30,000 acre-feet per year.¹⁴ In addition, the CAGRD has pending a Non-Indian Agricultural reallocation of 18,185 acre-feet per year and a lease from the White Mountain Apache Tribe for 2,500 acre-feet per year.

The CAGRD has also made adjustments to its policies and rate structure to mitigate for the uncertainty of supply availability and cost ~~future available supplies and their cost~~. For example, between 2015 and 2019, Activation Fees (paid by homebuilders) averaged a 33% increase per year for the Phoenix and Pinal AMAs, and a 27% increase per year in the Tucson AMA. Stakeholders agreed to this change during the development of the 2015 Plan of Operation in order to collect a more significant portion of funding for water supplies prior to homes being built and replenishment obligations being incurred, providing more equity among the CAGRD's members and ensuring that the CAGRD would have the funds necessary to purchase the additional replenishment supplies for the new obligation.

These incremental changes over the years have served to mitigate ~~lessen the impact of~~ the uncertainties of supply availability and cost ~~in the future availability and costs of replenishment supplies~~ for the CAGRD. However, with increased competition for limited supplies, rising acquisition costs, and the growing risk of reduced Colorado River shortages ~~supplies~~, concern remains that the steps taken to date to mitigate this uncertainty may not be adequate in the long-term and that more may need to be done to ensure the viability of the CAGRD ~~for its current members~~.

Commented [MCM2]: Does this number include NIA priority supplies? If so, there should be a footnote indicating the average annual yield of NIA supplies after accounting for future shortages.

Commented [MCM3]: Would be helpful to include a footnote indicating the average annual yield of NIA supplies after accounting for future shortages.

¹¹ Such a finding can only be made between the second and eighth year of the current Plan of Operation. A.R.S. § 45-576.03(R).

¹² CAWCD Board Information Brief, November 19, 2020, pg. 12, <https://www.cap-az.com/documents/meetings/2020-11-19/1827-111920-WEB-Final-Packet-CAGRD.pdf>

¹³ CAGRD 2019 Mid-Plan Review, p. 17.

¹⁴ CAGRD 2019 Mid-Plan Review.

ISSUE DESCRIPTION

The CAGRDR has a unique responsibility to secure replenishment supplies to balance the amount of excess groundwater used by its growing membership. The Post-2025 AMAs Committee has identified three main questions related to the long-term availability and costs of renewable supplies for the CAGRDR and its members to provide a starting point for evaluating opportunities for improvement that would benefit future AMA water management.

What are the long-term uncertainties for the CAGRDR related to the availability of renewable supplies for replenishment?

One unique aspect that the CAGRDR faces as it seeks to acquire new supplies is that groundwater could theoretically be more plentiful than renewable supplies, such that new AWS determinations that rely on CAGRDR could continue to be issued based on physically available groundwater, while the CAGRDR continues to be tasked with developing an equivalent renewable supply for replenishment beyond when it is reasonable to do so. In other words, if groundwater supplies continue to be available to meet the demands of new MLs and MSAs, there is the potential for a future shortfall in replenishment supplies for CAGRDR members to remain consistent with the AMA management goal.

The CAGRDR's 2015 Plan of Operation identified substantial supplies as potentially available in the long-term, some of which would be more firm than CAP supplies.¹⁵ Yet, the quantity and accessibility of renewable supplies realistically available in the future are as uncertain for the CAGRDR as for other water users. Fewer available water supplies for acquisition beyond 2025 will likely lead to increased competition among the CAGRDR and other entities seeking additional supplies for future use including large industrial users and municipal and private water utilities.¹⁶ In some cases, these entities are also CAGRDR members or serving CAGRDR member lands. The difficulties of acquiring these supplies beyond 2025 are compounded by the current complexities and contention surrounding the transfer of Colorado River water from the river to Central Arizona. Opposition from On-river interests to Colorado River mainstem transfers and the increasing cost of such water supplies may also have an impact on future CAGRDR acquisition activities.¹⁷

At this time, the CAGRDR appears to have sufficient supplies to meet its annual replenishment obligations until 2050.¹⁸ However, if ~~future~~ supplies become more limited or ~~entirely~~ unavailable for acquisition by the CAGRDR after 2025, ~~potential future risks exist for certain~~ communities that rely on the CAGRDR for new development and economic growth ~~run the risk in~~ that they would not be able to comply with the AWS Program. If ~~in the future, because of severe drought, increased competition and political opposition,~~ the CAGRDR is not successful in ~~identifying and acquiring~~ sufficient ~~available~~ supplies to support new and existing membership per statute, new development will halt, and current Designations of AWS will likely be in jeopardy. Depending on the amount of ~~the shortfall supplies available to the CAGRDR, it is possible that some a certain amount of excess groundwater incurred and future obligation~~ may not get replenished. This would most likely have negative impacts on future

Commented [MCM4]: Are we really concerned that there is more groundwater out there? Pinal is out and Phoenix will be out soon too (if it isn't already). This seems like a low risk.

There is enough risk that the CAGRDR will have trouble covering existing membership at build-out without including this issue too.

¹⁵ CAGRDR 2015 Plan of Operation, p. 4-14.

¹⁶ *Long-Term Water Augmentation Options for Arizona*, Prepared for the Long-Term Water Augmentation Committee of the GWAICC by Carollo Engineers, Montgomery & Associates and WestLand Resources, Inc., <https://new.azwater.gov/sites/default/files/Long-Term%20Water%20Augmentation%20Options%20final.pdf>.

¹⁷ CAGRDR 2019 Mid-Plan Review, p. 2.

¹⁸ CAWCD Board Information Brief, November 19, 2020, pg. 12, <https://www.cap-az.com/documents/meetings/2020-11-19/1827-111920-WEB-Final-Packet-CAGRDR.pdf>.

development in areas without access to renewable supplies and on the State's economy as a whole, as well as contribute to increased volumes of unreplenished groundwater pumping by existing members of the CAGRD.

What issues may arise as replenishment supply costs are borne by the CAGRD and passed on to its members?

Since the CAGRD has a perpetual obligation to replenish excess groundwater used by its members, it must continually acquire replenishment supplies to meet that obligation. The costs for such acquisitions are anticipated to increase as availability of renewable water supplies decreases. The CAGRD is not a water provider, and its revenue structure is also different from that of a municipal water provider. The CAGRD collects revenues through up-front fees paid by the landowner or developer, through annual membership dues, and through either an annual replenishment assessment (on ML property owners) or an annual replenishment tax (on MSAs) based on replenishment obligation volume. As such, long-term replenishment costs ultimately must be borne by the CAGRD member homeowners (MLs) or water providers (MSAs). For a ML homeowner, the CAGRD replenishment costs are incurred in addition to the monthly water service cost paid to the member's water provider.

For MLs, one would hope that rising long-term replenishment costs might serve as an incentive to use less excess groundwater. However, after the development of a subdivision, the financial responsibility of CAGRD membership is borne by the ML homeowner and paid via property taxes to the county assessor's office. This structure was put in place to create certainty for the CAGRD in its revenue streams. But for the homeowner, this structure can create a disconnect between water use and its full cost. It does not incentivize water conservation, but rather hides the true cost of a renewable water supply in a property tax bill, often paid through a mortgage. The disconnect between water use and water cost through the CAGRD has the potential to inflate the replenishment obligation of the CAGRD.

The CAGRD has the financial authority to meet its replenishment obligations, but little analysis has been done regarding the growing fiscal impact to its members over the long-term and how in turn that could stress the CAGRD's structure in the future. The CAGRD's assessment rates increase annually to keep up with costs associated with expanded CAGRD requirements, including funding the Replenishment Reserve and the establishment of the water supply acquisition program, as well as its annual water supply costs. As an example, the CAGRD calculated that the 2018 acquisition of water and credits from the Gila River Indian Community and Gila River Water Storage LLC for a 25-year period would increase the CAGRD Phoenix AMA members' combined rates by 11-15 percent over the next two to three years.¹⁹ Although the actual rate increase in the Phoenix AMA has been lower than expected since that time, this demonstrates the CAWCD Board will most likely need to consider additional acquisitions with sizable impacts to CAGRD rates.

As replenishment costs increase, some members and large water users are starting to seek ways to reduce CAGRD costs. Since the CAGRD's current rates are bundled and assessed on the volume of reported excess groundwater, some members with larger water demands have pursued temporary avoidance of CAGRD replenishment obligation by acquiring short-term supplies like long-term storage credits (LTSCs) or extinguishment credits (ECs) to offset the amount of excess groundwater they report to CAGRD. This more recent practice can impact CAGRD members because the fixed costs of CAGRD replenishment are redistributed over fewer members. If this practice grows in the future, CAGRD has concluded it could weaken its ability to financially sustain itself.²⁰ Overall,

¹⁹ Central Arizona Water Conservation District Board of Directors Action Brief, *Discussion and Consideration of Action to Approve a Water Supply Acquisition and Association Agreements between CAGRD, Gila River Indian Community (GRIC) and Gila River Water Storage (GRWS)*, November 1, 2018.

²⁰ CAWCD Board of Directors Information Brief, Report on and Discussion of Elliott D. Pollack & Co. Impact Report on Third-Party LTSC Sales to CAGRD Member Lands, Feb 16, 2017.

increasing water costs are not unique to the CAGR but the impacts of how those costs are assessed on its members, often as a second charge for water use, and the implications for the CAGR financial structure in the future are unclear.

What improvements could be made to ADWR's oversight and review criteria of CAGR Plans of Operation that would improve the long-term viability of the CAGR or reduce uncertainties for its new and existing members?

Under existing laws, the Director of ADWR must determine whether the CAGR Plan of Operation is consistent with achieving the management goal of each AMA in CAGR's service area. This ~~requirement action~~ provides oversight on whether CAGR has the water supplies and financial ability to meet its replenishment obligations. An approved Plan of Operation also determines if enrollment in CAGR may continue and details the water supplies required to meet the replenishment obligations of those enrollments. If ADWR were to determine that the CAGR Plan of Operation is not consistent with the management goal, a moratorium would be imposed on the enrollment of new members lands and cause the expiration of designations of AWS based on CAGR membership, pursuant to A.R.S. § 45-576.06(A). Such a determination is viewed as a "worst case" outcome, however, and could be detrimental to the state's economy and complicate efforts to resolve the issues related to the Plan of Operation. As has occurred in the past 20 years when the CAGR's statutory duties were revised and expanded, revisiting ADWR's oversight of CAGR, including the criteria used by ADWR to review the CAGR's Plan, could provide suggestions to improve the long-term sustainability of the CAGR for the benefit of its current and future members.

Commented [RDC(5)]: This issue raises the question about what costs the CAGR members incur that are not related to actual water supply costs and how they might be reduced so that the CAGR costs to members are more competitive with alternative supplies the CAGR members can acquire by themselves. This should probably be discussed in some fashion in this paper.

Commented [MCM6R5]: The scale of MLs and MSAs finding temporary alternative supplies is small potatoes compared to the enrolled lots that are not yet developed. Those lots also only contribute membership dues, but still represent a huge future obligation. Furthermore, I believe that if the CAGR wanted to ensure that their fixed costs were covered, they could re-jigger their rates to ensure that even members with zero excess groundwater use paid their own way. The issue is that doing so would impact the developers who own all of those enrolled but not yet developed lots.

One more thing...if reductions in the amount of reported excess groundwater threaten CAGR's financial health, then why does the CAGR fund a water conservation program?

Town of Gilbert Edits

*Governor's Water Augmentation, Innovation and Conservation Council
Post-2025 AMAs Committee*

DRAFT ISSUE BRIEF

CAGRDR REPLENISHMENT AND WATER SUPPLIES

ISSUE STATEMENT

The Central Arizona Groundwater Replenishment District (CAGRDR) provides a mechanism to replenish some of the Assured Water Supply related groundwater use within three Active Management Areas. However, the CAGRDR and its members face long-term uncertainties related to the availability and costs of renewable supplies for replenishment.

- What are the long-term uncertainties for the CAGRDR related to the availability of renewable supplies for replenishment?
- What issues may arise as replenishment supply costs are borne by the CAGRDR and passed on to its members?
- What improvements could be made to ADWR's oversight and review criteria of CAGRDR Plans of Operation that would improve the long-term viability of the CAGRDR or reduce uncertainties for its new and existing members?

BACKGROUND

In 1993, the Arizona State Legislature established the framework for a groundwater replenishment authority commonly referred to as the Central Arizona Groundwater Replenishment District (CAGRDR), to be operated by the Central Arizona Water Conservation District (CAWCD). The purpose of the CAGRDR is to provide a mechanism for landowners and municipal water providers in the Phoenix, Pinal and Tucson Active Managements Areas (AMAs) to demonstrate one of the assured water supply criteria for groundwater under the Assured Water Supply (AWS) Rules, which became effective in 1995. Without the CAGRDR, some developers and water providers would not be able to meet the AWS Program criterion of consistency with the management goal of the AMA.¹ CAGRDR membership allows new subdivisions and municipal water providers lacking a Central Arizona Project (CAP) subcontract, other renewable supplies, or access to sufficient infrastructure to deliver CAP water or other renewable supplies, to develop using groundwater while demonstrating consistency with the management goal. The CAGRDR mechanism thereby allows continued economic development in areas of the three AMAs without CAP allocations, other renewable supplies, or with insufficient infrastructure to put their CAP allocation or other renewable supplies to use.

To satisfy the requirement that withdrawals of groundwater are consistent with the management goal, the CAGRDR replenishes excess groundwater² pumped by or delivered to its members. In other words, CAGRDR membership allows municipal water providers or landowners with an AWS to withdraw and use groundwater upfront, while the CAGRDR replenishes the aquifer to offset the volume of excess groundwater withdrawn in an AMA by its members after the fact.

The CAGRDR serves two types of members: member lands (MLs), which are individual subdivisions, and member service areas (MSAs), which are municipal water providers such as cities, towns, districts, or water companies that

Commented [LH1]: This focuses narrowly on CAP. Maybe that is fine, but thinking it should mention "other renewable supplies"

¹ A.A.C. R12-15-722

² "Excess groundwater" is any amount of pumped groundwater beyond what is permitted by the AWS rules.

enroll all of the lands within their water service area. The developer of a subdivision may enroll the subdivision as a ML in the CAGR in order to obtain a certificate of AWS if the developer has access to a volume of groundwater equal to 100 years of the projected use within the subdivision.³ As of November 5, 2020, 1,194 subdivisions have enrolled as MLs in CAGR, encompassing over 290,000 lots.⁴ A large number of ML subdivisions, particularly in the Pinal AMA, are enrolled in the CAGR but have not yet been developed. The CAGR 2015 Plan of Operation cites approximately 140,000 enrolled but unbuilt lots across the three AMAs served by the CAGR.⁵

Commented [LH2]: Consistency is needed in reference to certificates and designations. The other issue briefs has them capitalized and this one has varying uses of the term.

A municipal provider may enroll as an MSA in order to obtain a designation of AWS if its portfolio of water supplies includes groundwater requiring replenishment. There are currently 24 active MSAs enrolled in the CAGR.⁶

The CAGR is tasked with replenishing excess groundwater pumped by its members within three years. As excess groundwater pumping by CAGR members increases⁷, the CAGR must continually acquire water supplies for its replenishment obligations and for its replenishment reserve.⁸

The CAGR is required by statute to submit for approval to the Director of the Arizona Department of Water Resources (ADWR) at least every ten years a Plan of Operation (Plan) that conforms with the management goals of each AMA in its service area. The Plan must satisfy an extensive list of statutory planning requirements, showing the CAGR's ability to meet projected replenishment obligations for its current and estimated near-term membership. The CAGR does not need to demonstrate that its supplies are available for 100 years because the 100-year AWS criteria do not apply to the CAGR itself.⁹ Consequently, the CAGR has the ability to utilize supplies of less than 100 years in duration but must also describe potentially available water supplies for the next 100 years to the satisfaction of the Director of ADWR. This differs from the AWS requirements for obtaining and maintaining a Certificate or Designation of AWS in which physically available supplies must be identified and available for the full 100-year period. Since the CAGR can make use of shorter-term water supplies, its water supply acquisition plans are often described as not competing with other entities, including its own members who seek to acquire long-term supplies for AWS designations.

Since its inception, the long-term uncertainty in supplies available to the CAGR has been an issue in part because the CAGR is only required to identify the water supplies available to the CAGR for replenishment for twenty years and because of the CAGR's early reliance on Excess CAP water to meet its replenishment obligations. Subsequently, numerous statutory changes as well as policy and rate adjustments by CAWCD have been implemented over time to mitigate this uncertainty. In 2003 and 2005, statutory changes were made to strengthen the ADWR Director's oversight and approval of the CAGR Plan of Operation. Changes included requiring the CAGR to identify water resources potentially available for the subsequent 80 years after the first 20 years of identified water resources and allowing the Director to require a revised Plan of Operation if there is

³ The role of CAGR and groundwater in the AWS Program is discussed in the *Groundwater in the Assured Water Supply Program Issue Brief*.

⁴ <https://cagr.com/documents/enrollment/CAGR-Member-Land-Enrollment-Summary.pdf>

⁵ 2015 Central Arizona Groundwater Replenishment District Plan of Operation, p. 3-6.

⁶ <https://cagr.com/documents/enrollment/MSA-Enrollment-History-Member-Service-Area-List.pdf>

⁷ Increases in excess groundwater pumping are projected due to several factors, including the buildout of existing CAGR member demands, the demands of new/future members, the depletion of alternative groundwater supplies such as groundwater allowances, and the restriction on groundwater allowances for Certificates or Designations issued after 2025.

⁸ A.R.S. §48-3771.A and A.R.S. §48-3771.C – "Except as provided by title 45, chapter 3.1, the district may replenish groundwater with central Arizona project water or water from any other lawfully available source except groundwater withdrawn from within an active management area."

⁹ In its 10-year Plan of Operation, CAGR is required to show replenishment supplies in hand to meet replenishment obligations for 20 years as well as identify potentially available supplies for the subsequent 80 years.

either an unexpected increase in projected replenishment obligations or an unexpected reduction in water supplies available to meet the CAGRD's obligations.¹⁰

The CAGRD has worked to acquire a portfolio of supplies that is expected to be sufficient to meet its annual replenishment obligations in the coming decades.¹¹ In its early years, the CAGRD met its replenishment obligations primarily through the use of Excess CAP water. In recent years, the availability of Excess CAP water has decreased substantially, and it will likely be reduced or unavailable in the future.¹² The CAGRD has long planned for the reduced availability of Excess CAP water and for future Colorado River shortage impacts to its other supplies. This is evidenced by the establishment of its formal water acquisition program and its requirement to develop a replenishment reserve of long-term storage credits that can be utilized to meet its obligations and enhance rate stability in times of water supply shortage or infrastructure failure. Its acquisition program is guided by principles adopted by the CAWCD Board that seek a 50/50 mix of short-term and long-term supplies in anticipation of projected increases in replenishment obligations.

These efforts have produced the CAGRD acquiring to-date over 250,000 acre-feet of the 764,502 acre-feet targeted amount for the Replenishment Reserve in the 2015 Plan of Operation. Under its acquisition program, the CAGRD has acquired a total annual supply of approximately 44,000 acre-feet per year compared to the CAGRD's average annual replenishment obligation of approximately 30,000 acre-feet per year.¹³ In addition, the CAGRD has pending a Non-Indian Agricultural reallocation of 18,185 acre-feet per year and a lease from the White Mountain Apache Tribe for 2,500 acre-feet per year.

The CAGRD has also made adjustments to its policies and rate structure to mitigate for the uncertainty of future available supplies and their cost. For example, between 2015 and 2019, Activation Fees (paid by homebuilders) averaged a 33% increase per year for the Phoenix and Pinal AMAs, and a 27% increase per year in the Tucson AMA. Stakeholders agreed to this change during the development of the 2015 Plan of Operation in order to collect a more significant portion of funding for water supplies prior to homes being built and replenishment obligations being incurred, providing more equity among the CAGRD's members and ensuring that the CAGRD would have the funds necessary to purchase the additional replenishment supplies for the new obligation. This is a step toward aligning CAGRD lands with non-CAGRD lands where growth pays for its impact on water supply portfolio development through Water Resources System Development Fees instead of through water rates.

These incremental changes over the years have served to lessen the impact of the uncertainties in the future availability and costs of replenishment supplies for the CAGRD. However, with increased competition for limited supplies, rising acquisition costs, and the growing risk of reduced Colorado River supplies, concern remains that the steps taken to date to mitigate this uncertainty may not be adequate in the long-term and that more may need to be done to ensure the viability of the CAGRD for its current members.

ISSUE DESCRIPTION

The CAGRD has a unique responsibility to secure replenishment supplies to balance the amount of excess groundwater used by its growing membership. The Post-2025 AMAs Committee has identified three main questions related to the long-term availability and costs of renewable supplies for the CAGRD and its members to

¹⁰ Such a finding can only be made between the second and eighth year of the current Plan of Operation. A.R.S. § 45-576.03(R).

¹¹ CAWCD Board Information Brief, November 19, 2020, pg. 12, <https://www.cap-az.com/documents/meetings/2020-11-19/1827-111920-WEB-Final-Packet-CAGRD.pdf>

¹² CAGRD 2019 Mid-Plan Review, p. 17.

¹³ CAGRD 2019 Mid-Plan Review.

provide a starting point for evaluating opportunities for improvement that would benefit future AMA water management.

What are the long-term uncertainties for the CAGRD related to the availability of renewable supplies for replenishment?

One unique aspect that the CAGRD faces as it seeks to acquire new supplies is that groundwater could theoretically be more plentiful than renewable supplies, such that new AWS determinations that rely on CAGRD could continue to be issued based on physically available groundwater, while the CAGRD continues to be tasked with developing an equivalent renewable supply for replenishment beyond when it is reasonable to do so. In other words, if groundwater supplies continue to be available to meet the demands of new MLs and MSAs, there is the potential for a future shortfall in replenishment supplies for CAGRD members to remain consistent with the AMA management goal.

The CAGRD's 2015 Plan of Operation identified substantial supplies as potentially available in the long-term, some of which would be more firm than CAP supplies.¹⁴ Yet, the quantity and accessibility of renewable supplies realistically available in the future are as uncertain for the CAGRD as for other water users. Fewer available water supplies for acquisition beyond 2025 will likely lead to increased competition among the CAGRD and other entities seeking additional supplies for future use including large industrial users and municipal and private water utilities.¹⁵ In some cases, these entities are also CAGRD members or serving CAGRD member lands. The difficulties of acquiring these supplies beyond 2025 are compounded by the current complexities and contention surrounding the transfer of Colorado River mainstem water from the river to Central Arizona. Opposition from On-river interests to Colorado River mainstem transfers and the increasing cost of such water supplies may also have an impact on future CAGRD acquisition activities.¹⁶

At this time, the CAGRD appears to have sufficient supplies to meet its annual replenishment obligations until 2050.¹⁷ However, if future supplies become more limited or unavailable for acquisition by the CAGRD after 2025, potential future risks exist for certain communities that rely on the CAGRD for new development and economic growth in that they would not be able to comply with the AWS Program. If in the future, because of severe drought, increased competition and political opposition, the CAGRD is not successful in identifying sufficient available supplies to support new and existing membership per statute, new development will halt, and current Designations of AWS that rely on CAGRD will likely be in jeopardy. Depending on the amount of supplies available to the CAGRD, a certain amount of incurred and future obligation may not get replenished. This would most likely have negative impacts on future development in areas without access to renewable supplies and on the State's economy as a whole, as well as contribute to increased volumes of unreplenished groundwater pumping by existing members of the CAGRD.

What issues may arise as replenishment supply costs are borne by the CAGRD and passed on to its members?

¹⁴ CAGRD 2015 Plan of Operation, p. 4-14.

¹⁵ *Long-Term Water Augmentation Options for Arizona*, Prepared for the Long-Term Water Augmentation Committee of the GWAICC by Carollo Engineers, Montgomery & Associates and WestLand Resources, Inc., <https://new.azwater.gov/sites/default/files/Long-Term%20Water%20Augmentation%20Options%20final.pdf>.

¹⁶ CAGRD 2019 Mid-Plan Review, p. 2.

¹⁷ CAWCD Board Information Brief, November 19, 2020, pg. 12, <https://www.cap-az.com/documents/meetings/2020-11-19/1827-111920-WEB-Final-Packet-CAGRD.pdf>.

Commented [LH3]: Some distinction of the priority of water/water right should be made since CAP moves Colorado River water.

Since the CAGRD has a perpetual obligation to replenish excess groundwater used by its members, it must continually acquire replenishment supplies to meet that obligation. The costs for such acquisitions are anticipated to increase as availability of renewable water supplies decreases. The CAGRD is not a water provider, and its revenue structure is also different from that of a municipal water provider. The CAGRD collects revenues through up-front fees paid by the landowner or developer, through annual membership dues, and through either an annual replenishment assessment (on ML property owners) or an annual replenishment tax (on MSAs) based on replenishment obligation volume. As such, long-term replenishment costs ultimately must be borne by the CAGRD member homeowners (MLs) or water providers (MSAs). For an ML homeowner, the CAGRD replenishment costs are incurred in addition to the monthly water service cost paid to the member's water provider.

For MLs, rising long-term replenishment costs might serve as an incentive to use less excess groundwater. However, after the development of a subdivision, the financial responsibility of CAGRD membership is borne by the ML homeowner and paid via property taxes to the county assessor's office. This structure was put in place to create certainty for the CAGRD in its revenue streams. But for the homeowner, this structure can create a disconnect between water use and its full cost. It does not incentivize water conservation, but rather hides the true cost of a renewable water supply in a property tax bill, often paid through a mortgage. The disconnect between water use and water cost through the CAGRD has the potential to inflate the replenishment obligation of the CAGRD.

The CAGRD has the financial authority to meet its replenishment obligations, but little analysis has been done regarding the growing fiscal impact to its members over the long-term and how in turn that could stress the CAGRD's structure in the future. The CAGRD's assessment rates increase annually to keep up with costs associated with expanded CAGRD requirements, including funding the Replenishment Reserve and the establishment of the water supply acquisition program, as well as its annual water supply costs. As an example, the CAGRD calculated that the 2018 acquisition of water and credits from the Gila River Indian Community and Gila River Water Storage LLC for a 25-year period would increase the CAGRD Phoenix AMA members' combined rates by 11-15 percent over the next two to three years.¹⁸ Although the actual rate increase in the Phoenix AMA has been lower than expected since that time, this demonstrates the CAWCD Board will most likely need to consider additional acquisitions with sizable impacts to CAGRD rates.

As replenishment costs increase, some members and large water users are starting to seek ways to reduce CAGRD costs. Since the CAGRD's current rates are bundled and assessed on the volume of reported excess groundwater, some members with larger water demands have pursued temporary avoidance of CAGRD replenishment obligation by acquiring short-term supplies like long-term storage credits (LTSCs) or extinguishment credits (ECs) to offset the amount of excess groundwater they report to CAGRD. This more recent practice can impact CAGRD members because the fixed costs of CAGRD replenishment are redistributed over fewer members. If this practice grows in the future, CAGRD has concluded it could weaken its ability to financially sustain itself.¹⁹ Overall, increasing water costs are not unique to the CAGRD but the impacts of how those costs are assessed on its members, often as a second charge for water use, and the implications for the CAGRD financial structure in the future are unclear.

Commented [LH4]: Maybe adding some verbiage highlighting how public the rate increase process for water providers is versus this type of rate increase will help solidify the statement that "little analysis has been done regarding the growing fiscal impact to its members"

Commented [LH5]: Well said and good summary

¹⁸ Central Arizona Water Conservation District Board of Directors Action Brief, *Discussion and Consideration of Action to Approve a Water Supply Acquisition and Association Agreements between CAGRD, Gila River Indian Community (GRIC) and Gila River Water Storage (GRWS)*, November 1, 2018.

¹⁹ CAWCD Board of Directors Information Brief, Report on and Discussion of Elliott D. Pollack & Co. Impact Report on Third-Party LTSC Sales to CAGRD Member Lands, Feb 16, 2017.

What improvements could be made to ADWR's oversight and review criteria of CAGRD Plans of Operation that would improve the long-term viability of the CAGRD or reduce uncertainties for its new and existing members?

Under existing laws, the Director of ADWR must determine whether the CAGRD Plan of Operation is consistent with achieving the management goal of each AMA in CAGRD's service area. This action provides oversight on whether CAGRD has the water supplies and financial ability to meet its replenishment obligations. An approved Plan of Operation also determines if enrollment in CAGRD may continue and details the water supplies required to meet the replenishment obligations of those enrollments. If ADWR were to determine that the CAGRD Plan of Operation is not consistent with the management goal, a moratorium would be imposed on the enrollment of new members lands and cause the expiration of designations of AWS based on CAGRD membership, pursuant to A.R.S. § 45-576.06(A). Such a determination is viewed as a "worst case" outcome, however, and could be detrimental to the state's economy and complicate efforts to resolve the issues related to the Plan of Operation. As has occurred in the past 20 years when the CAGRD's statutory duties were revised and expanded, revisiting ADWR's oversight of CAGRD, including the criteria used by ADWR to review the CAGRD's Plan, could provide suggestions to improve the long-term sustainability of the CAGRD for the benefit of its current and future members.



**SIERRA
CLUB**

Grand Canyon Chapter • 514 W. Roosevelt St. • Phoenix, AZ 85003

Phone: (602) 253-8633 • Email: grand.canyon.chapter@sierraclub.org

February 2, 2021

Warren Tenney, Co-chair
Post-2025 AMA Committee

Dear Mr. Tenney:

Sierra Club is a national nonprofit organization of approximately 3.8 million members and supporters dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. Sierra Club's Grand Canyon Chapter was organized in 1965, and, prior to that, our members were also involved in protecting Arizona's resources. We have a significant interest in water management in Arizona. It is in this context that we comment on the Issue Briefs related to Groundwater and the Assured Water Supply Program and Central Arizona Groundwater Replenishment District (CAGRD) Replenishment and Water Supplies.

In both cases, we generally agree with the issue descriptions and the questions posed, but feel one question should be added: "What statutory changes are needed to address the issues described in this brief?"

In the case of the CAGRD, legislative change is required to authorize the CAGRD to deny membership if available renewable supplies are inadequate. To focus entirely on administrative fixes ignores the shortcomings of the law. The Post-2025 AMA Committee has been tasked with identifying needs and opportunities and should advocate for much-needed legislative change to address the issues it has identified that cannot be addressed any other way. First and foremost of these is the requirement that CAGRD enroll applicants who have met the necessary requirements, regardless of the availability of water for replenishment. As we stated in our previous letter, "the inability of the CAGRD to deny enrollment to any entity demonstrating a 100-year supply, regardless of CAGRD's capacity to identify additional supplies, should be a primary issue brought forward to the GWAICC, and the only fix for that is a statutory one. Legislative change could simultaneously be sought to address issues outlined in the Hydrologic Disconnect issue brief by requiring that water be replenished in the same location where it is pumped.

In the case of the Assured Water Supply Program, we question the value of exploring the last question related to roadblocks preventing access to renewable supplies and infrastructure. The uncertainty of future supplies is acknowledged, yet it is suggested the answer for groundwater-dependent areas is to join the fray trying to obtain surface water. If there are already questions

about having enough to go around, how can bringing in more entities to compete for surface water be the answer? The answer is that development should occur where there is water to support it.

Thank you for your consideration of these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Sandy Bahr". The signature is fluid and cursive, with the first name "Sandy" and last name "Bahr" clearly distinguishable.

Sandy Bahr
Chapter Director
Sierra Club – Grand Canyon (Arizona) Chapter

Arizona Water Company Edits

Governor's Water Augmentation, Innovation and Conservation Council
Post-2025 AMAs Committee

DRAFT ISSUE BRIEF

CAGRDR REPLENISHMENT AND WATER SUPPLIES

ISSUE STATEMENT

The Central Arizona Groundwater Replenishment District (CAGRDR) provides a mechanism to replenish some of the Assured Water Supply related groundwater use within three Active Management Areas. However, the CAGRDR and its members face long-term uncertainties related to the availability and costs of renewable supplies for replenishment.

- What are the long-term uncertainties for the CAGRDR related to the availability of renewable supplies for replenishment?
- What issues may arise as replenishment supply costs are borne by the CAGRDR and passed on to its members?
- What improvements could be made to ADWR's oversight and review criteria of CAGRDR Plans of Operation that would improve the long-term viability of the CAGRDR or reduce uncertainties for its new and existing members?

BACKGROUND

In 1993, the Arizona State Legislature established the framework for a groundwater replenishment authority commonly referred to as the Central Arizona Groundwater Replenishment District (CAGRDR), to be operated by the Central Arizona Water Conservation District (CAWCD). The purpose of the CAGRDR is to provide a mechanism for landowners and municipal water providers in the Phoenix, Pinal and Tucson Active Management Areas (AMAs) to demonstrate one of the five assured supply criteria for groundwater under the Assured Water Supply (AWS) Rules, which became effective in 1995. Without the CAGRDR, some developers and water providers would not be able to meet the AWS Program criterion of consistency with the management goal of the AMA.¹ CAGRDR membership demonstrates consistency with the management goal of the AWS Rules, which allows new subdivisions and municipal water providers lacking a Central Arizona Project (CAP) subcontract, or access to sufficient infrastructure to deliver CAP water or other renewable supplies, to develop using groundwater ~~while demonstrating consistency with the management goal.~~ The CAGRDR mechanism thereby ~~allows~~ helps to facilitate continued economic development in areas of the three AMAs without CAP allocations or with insufficient infrastructure to put their CAP allocation to use.

To satisfy the requirement that withdrawals of groundwater are consistent with the management goal, the CAGRDR replenishes *excess* groundwater² pumped by or delivered to its members. In other words, CAGRDR membership allows municipal water providers or landowners with an AWS to withdraw and use groundwater upfront, while the CAGRDR replenishes the aquifer to offset the volume of excess groundwater withdrawn in an AMA by its members after the fact.

The CAGRDR serves two types of members: member lands (MLs), which are individual subdivisions, and member service areas (MSAs), which are municipal water providers such as cities, towns, districts, or water companies that

¹ A.A.C. R12-15-722

² "Excess groundwater" is any amount of pumped groundwater beyond what is permitted by the AWS rules.

Commented [CN1]: Although this may seem like a simple editorial comment, it is important to reverse the language in this sentence. CAGRDR does NOT allow development. The AWS Rules allow the development. CAGRDR membership only satisfies one of the criteria.

enroll all of the lands within their water service area. The developer of a subdivision may enroll the subdivision as an ML in the CAGRD in order to obtain a certificate of AWS if the developer has also demonstrated physical, legal and continuous access to a volume of groundwater equal to 100 years of the projected use within the subdivision.³ As of November 5, 2020, 1,194 subdivisions have been enrolled as MLs in CAGRD, encompassing over 290,000 lots.⁴ A large number of ML subdivisions, particularly in the Pinal AMA, are enrolled in the CAGRD but have not yet been developed. The CAGRD 2015 Plan of Operation cites approximately 140,000 enrolled but unbuilt lots across the three AMAs served by the CAGRD.⁵

A municipal provider may enroll as an MSA in order to obtain a designation of AWS if its portfolio of water supplies includes groundwater requiring replenishment. There are currently 24 active MSAs enrolled in the CAGRD.⁶

The CAGRD is tasked with replenishing excess groundwater pumped by its members within three years. As excess groundwater pumping by CAGRD members increases⁷, the CAGRD must continually acquire water supplies for its replenishment obligations and for its replenishment reserve.⁸

The CAGRD is required by statute to submit for approval to the Director of the Arizona Department of Water Resources (ADWR) at least every ten years a Plan of Operation (Plan) that conforms with the management goals of each AMA in its service area. The Plan must satisfy an extensive list of statutory planning requirements, showing the CAGRD's ability to meet projected replenishment obligations for its current and estimated near-term membership. The CAGRD does not need to demonstrate that its supplies are available for 100 years because the 100-year AWS criteria do not apply to the CAGRD itself.⁹ ~~Consequently, the CAGRD has the ability to utilize supplies of less than 100 years in duration but must also describe potentially available water supplies for the next 100 years to the satisfaction of the Director of ADWR.~~ This differs from the AWS requirements for obtaining and maintaining a Certificate or Designation of AWS in which physically available supplies must be identified and available for the full 100-year period. Since the CAGRD can make use of shorter-term water supplies, its water supply acquisition plans are often described as not competing with other entities, including its own members who seek to acquire long-term supplies for AWS designations.

Since its inception, the long-term uncertainty in supplies available to the CAGRD has been an issue in part because the CAGRD is only required to identify the water supplies available to the CAGRD for replenishment for twenty years and because of the CAGRD's early reliance on Excess CAP water to meet its replenishment obligations. ~~Subsequently, numerous~~ statutory changes as well as policy and rate adjustments by CAWCD have been implemented over time to mitigate this uncertainty. In 2003 and 2005, statutory changes were made to strengthen the ADWR Director's oversight and approval of the CAGRD Plan of Operation. Changes included requiring the CAGRD to identify water resources potentially available for the subsequent 80 years after the first

Commented [CN2]: Footnote 9 is the correct language. This sentence is confusing, duplicative and not completely correct.

³ The role of CAGRD and groundwater in the AWS Program is discussed in the *Groundwater in the Assured Water Supply Program Issue Brief*.

⁴ <https://cagrd.com/documents/enrollment/CAGRD-Member-Land-Enrollment-Summary.pdf>

⁵ 2015 Central Arizona Groundwater Replenishment District Plan of Operation, p. 3-6.

⁶ <https://cagrd.com/documents/enrollment/MSA-Enrollment-History-Member-Service-Area-List.pdf>

⁷ Increases in excess groundwater pumping are projected due to several factors, including the buildout of existing CAGRD member demands, the demands of new/future members, the depletion of alternative groundwater supplies such as groundwater allowances, and the restriction on groundwater allowances for Certificates or Designations issued after 2025.

⁸ A.R.S. §48-3771.A and A.R.S. §48-3771.C – "Except as provided by title 45, chapter 3.1, the district may replenish groundwater with central Arizona project water or water from any other lawfully available source except groundwater withdrawn from within an active management area."

⁹ In its 10-year Plan of Operation, CAGRD is required to show replenishment supplies in hand to meet replenishment obligations for 20 years as well as identify potentially available supplies for the subsequent 80 years.

20 years of identified water resources and ~~allowing the Director to require~~ requiring the development and approval of a revised Plan of Operation if the Director determines that there is either an unexpected increase in projected replenishment obligations or an unexpected reduction in water supplies available to meet the CAGRD's obligations.¹⁰

The CAGRD has worked to acquire a portfolio of supplies that is expected to be sufficient to meet its annual replenishment obligations in the coming decades.¹¹ In its early years, the CAGRD met its replenishment obligations primarily through the use of Excess CAP water. In recent years, the availability of Excess CAP water has decreased substantially, and it will likely be reduced or unavailable in the future.¹² The CAGRD has long planned for the reduced availability of Excess CAP water and for future Colorado River shortage impacts to its other supplies. This is evidenced by the establishment of its formal water acquisition program and its requirement to develop a replenishment reserve of long-term storage credits that can be utilized to meet its obligations and enhance rate stability in times of water supply shortage or infrastructure failure. Its acquisition program is guided by principles adopted by the CAWCD Board that seek a 50/50 mix of short-term and long-term supplies in anticipation of projected increases in replenishment obligations.

These efforts have ~~produced~~ resulted in the CAGRD acquiring to-date over 250,000 acre-feet of the 764,502 acre-feet targeted amount for the Replenishment Reserve in the 2015 Plan of Operation. Under its acquisition program, the CAGRD has acquired a total annual supply of approximately 44,000 acre-feet per year compared to the CAGRD's average annual replenishment obligation of approximately 30,000 acre-feet per year.¹³ In addition, the CAGRD has pending a Non-Indian Agricultural reallocation of 18,185 acre-feet per year and a lease from the White Mountain Apache Tribe for 2,500 acre-feet per year.

The CAGRD has also made adjustments to its policies and rate structure to mitigate for the uncertainty of future available supplies and their cost. For example, between 2015 and 2019, Activation Fees (paid by homebuilders) averaged a 33% increase per year for the Phoenix and Pinal AMAs, and a 27% increase per year in the Tucson AMA. Stakeholders agreed to this change during the development of the 2015 Plan of Operation ~~in order to collect because it generates~~ a more significant portion of funding for water supplies prior to homes being built and replenishment obligations being incurred, thus providing more equity among the CAGRD's members and ensuring that the CAGRD would have the funds necessary to purchase the additional replenishment supplies for the new obligation.

These incremental changes over the years have served to lessen the ~~impact of the~~ uncertainties in ~~the future availability and costs of replenishment~~ CAGRD's ability to secure renewable supplies ~~for the CAGRD to offset its growing replenishment obligations~~. However, with increased competition for limited supplies, rising acquisition costs, and the growing risk of reduced Colorado River supplies, concern remains that the steps taken to date to mitigate this uncertainty may not be adequate in the long-term and that more may need to be done to ensure the viability of the CAGRD ~~for its current members~~.

ISSUE DESCRIPTION

¹⁰ Such a finding can only be made between the second and eighth year of the current Plan of Operation. A.R.S. § 45-576.03(R).

¹¹ CAWCD Board Information Brief, November 19, 2020, pg. 12, <https://www.cap-az.com/documents/meetings/2020-11-19/1827-111920-WEB-Final-Packet-CAGRD.pdf>

¹² CAGRD 2019 Mid-Plan Review, p. 17.

¹³ CAGRD 2019 Mid-Plan Review.

Commented [CN3]: The viability of the CAGRD is important not just to its current members, but to everyone in the AMA (as well as CAGRD and ADWR).

The CAGRDR has a unique responsibility to secure ~~replenishment water~~ supplies to ~~balance-replenish the amount of~~ excess groundwater used by its growing membership. The Post-2025 AMAs Committee has identified three main questions related to the long-term availability and costs of renewable supplies for the CAGRDR and its members to provide a starting point for evaluating opportunities for improvement that would benefit future AMA water management.

What are the long-term uncertainties for the CAGRDR related to the availability of renewable supplies for replenishment?

One unique aspect that the CAGRDR faces as it seeks to acquire new supplies is that groundwater could theoretically be more plentiful than renewable supplies, such that new AWS determinations that rely on CAGRDR could continue to be issued based on physically available groundwater, while the CAGRDR continues to be tasked with developing an equivalent renewable supply for replenishment beyond when it is reasonable to do so. In other words, if groundwater supplies continue to be available to meet the demands of new MLs and MSAs, there is the potential for a future shortfall in replenishment supplies for CAGRDR members to remain consistent with the AMA management goal.

The CAGRDR's 2015 Plan of Operation identified substantial supplies as potentially available in the long-term, some of which would be more firm than CAP supplies.¹⁴ Yet, the quantity and accessibility of renewable supplies realistically available in the future are as uncertain for the CAGRDR as for other water users. Fewer available water supplies for acquisition beyond 2025 will likely lead to increased competition among the CAGRDR and other entities seeking additional supplies for future use, including large industrial users and municipal and private water utilities.¹⁵ In some cases, these entities are also CAGRDR members or serving CAGRDR member lands. The difficulties of acquiring these supplies beyond 2025 are compounded by the current complexities and contention surrounding the transfer of Colorado River water from the river to Central Arizona. Opposition from On-river interests to Colorado River mainstem transfers and the increasing cost of such water supplies may also have an impact on future CAGRDR acquisition activities.¹⁶

At this time, the CAGRDR appears to have sufficient supplies to meet its annual replenishment obligations until 2050.¹⁷ However, if future supplies become more limited or unavailable for acquisition by the CAGRDR after 2025, potential future risks exist for certain communities that rely on the CAGRDR for new development and economic growth in that they would not be able to comply with the AWS Program. If in the future, because of severe drought, increased competition and political opposition, the CAGRDR is not successful in identifying sufficient available supplies to support new and existing membership per statute, new development will halt, and current Designations of AWS will likely be in jeopardy. Depending on the amount of supplies available to the CAGRDR, a certain amount of incurred and future obligation may not get replenished. This would ~~most likely~~ have negative impacts on future development in areas without access to renewable supplies and on the State's economy as a whole, ~~as well as contribute to increased volumes of unreplenished groundwater pumping by existing members of the CAGRDR.~~

¹⁴ CAGRDR 2015 Plan of Operation, p. 4-14.

¹⁵ *Long-Term Water Augmentation Options for Arizona*, Prepared for the Long-Term Water Augmentation Committee of the GWAICC by Carollo Engineers, Montgomery & Associates and WestLand Resources, Inc., <https://new.azwater.gov/sites/default/files/Long-Term%20Water%20Augmentation%20Options%20final.pdf>.

¹⁶ CAGRDR 2019 Mid-Plan Review, p. 2.

¹⁷ CAWCD Board Information Brief, November 19, 2020, pg. 12, <https://www.cap-az.com/documents/meetings/2020-11-19/1827-111920-WEB-Final-Packet-CAGRDR.pdf>.

What issues may arise as replenishment supply costs are borne by the CAGRD and passed on to its members?

Since the CAGRD has a perpetual obligation to replenish excess groundwater used by its members, it must continually acquire replenishment supplies to meet that obligation. The costs for such acquisitions are anticipated to increase as availability of renewable water supplies decreases. The CAGRD is not a water provider, and its revenue structure is also different from that of a municipal water provider. The CAGRD collects revenues through up-front fees paid by the landowner or developer, through annual membership dues, and through either an annual replenishment assessment (on ML property owners) or an annual replenishment tax (on MSAs) based on replenishment obligation volume. As such, long-term replenishment costs ultimately must be borne by the CAGRD member homeowners (MLs) or water providers (MSAs). MSA water providers usually roll the total costs of water service and replenishment into the rates their water users pay. For ~~an~~ ML homeowners, the CAGRD replenishment costs are incurred in addition to not directly connected to the monthly water service cost paid to the member's water provider (as described below).

For MLs, rising long-term replenishment costs might serve as an incentive to use less excess groundwater. However, after the development of a subdivision, the financial responsibility of CAGRD membership is borne by the ML homeowner and paid via property taxes to the county assessor's office. This structure was put in place to create certainty for the CAGRD in its revenue streams. But for the homeowner, this structure can create a disconnect between water use and its full cost. It does not incentivize water conservation, but rather hides the true cost of a renewable water supply in a property tax bill, often paid through a mortgage. The disconnect between water use and water cost through the CAGRD has the potential to inflate the replenishment obligation of the CAGRD.

The CAGRD has the financial authority to meet its replenishment obligations, but little analysis has been done regarding the growing fiscal impact to its members over the long-term and how in turn that could stress the CAGRD's structure in the future. The CAGRD's up-front fees, membership dues and assessment rates increase annually to keep up with costs associated with expanded CAGRD requirements, including funding the Replenishment Reserve and the establishment of the water supply acquisition program, as well as its annual water supply costs. As an example, the CAGRD calculated that the 2018 acquisition of water and credits from the Gila River Indian Community and Gila River Water Storage LLC for a 25-year period would increase the CAGRD Phoenix AMA members' combined rates by 11-15 percent over the next two to three years.¹⁸ Although the actual rate increase in the Phoenix AMA has been lower than expected since that time, this demonstrates the CAWCD Board will most likely need to consider additional acquisitions with sizable impacts to CAGRD rates.

As replenishment costs-rates increase, some members and large water users are starting to seek ways to reduce CAGRD costs. Since the CAGRD's current rates are bundled and assessed on the volume of reported excess groundwater, some members with larger water demands have pursued temporary avoidance of CAGRD replenishment obligation by acquiring short-term supplies like long-term storage credits (LTSCs) or extinguishment credits (ECs) to offset the amount of excess groundwater they report to CAGRD. This more recent practice can impact CAGRD members because the fixed costs of CAGRD replenishment are redistributed over fewer members. If this practice grows in the future, CAGRD has concluded it could weaken its ability to financially sustain itself.¹⁹ Overall, increasing water costs are not unique to the CAGRD but the impacts of how those costs

¹⁸ Central Arizona Water Conservation District Board of Directors Action Brief, *Discussion and Consideration of Action to Approve a Water Supply Acquisition and Association Agreements between CAGRD, Gila River Indian Community (GRIC) and Gila River Water Storage (GRWS)*, November 1, 2018.

¹⁹ CAWCD Board of Directors Information Brief, *Report on and Discussion of Elliott D. Pollack & Co. Impact Report on Third-Party LTSC Sales to CAGRD Member Lands*, Feb 16, 2017.

are assessed on its members, often as a second charge for water use, and the implications for the CAGRD financial structure in the future are unclear.

What improvements could be made to ADWR's oversight and review criteria of CAGRD Plans of Operation that would improve the long-term viability of the CAGRD or reduce uncertainties for its new and existing members?

Under existing laws, the Director of ADWR must determine whether the CAGRD Plan of Operation is consistent with achieving the management goal of each AMA in CAGRD's service area. This action provides oversight on whether CAGRD has the water supplies and financial ability to meet its replenishment obligations. An approved Plan of Operation also determines if enrollment in CAGRD may continue and ~~details estimates~~ the water supplies required to meet the replenishment obligations of those enrollments. If ADWR were to determine that the CAGRD Plan of Operation is not consistent with the management goal, a moratorium would be imposed on the enrollment of new members lands and cause the expiration of designations of AWS based on CAGRD membership, pursuant to A.R.S. § 45-576.06(A). Such a determination is viewed as a "worst case" outcome, however, and ~~ewould certainly~~ be detrimental to the state's economy ~~and complicate efforts to resolve the issues related to the Plan of Operation~~. As has occurred in the past 20 years when the CAGRD's statutory duties were revised and expanded, revisiting ADWR's oversight of CAGRD, including the criteria used by ADWR to review the CAGRD's Plan, could provide suggestions to improve the long-term sustainability of the CAGRD for the benefit of its current and future members ~~as well as all landowners in the AMAs served by the CAGRD~~.

Commented [CN4]: If ADWR officially determines that the Plan is not consistent with the mgmt goal and a moratorium is in place, then all efforts to resolve the issues would have already been exhausted per statutes.

DRAFT ISSUE BRIEF

CAGR D REPLENISHMENT AND WATER SUPPLIES

ISSUE STATEMENT

The Central Arizona Groundwater Replenishment District (CAGR D) provides a mechanism to replenish some of the Assured Water Supply related groundwater use within three Active Management Areas. However, the CAGR D and its members face long-term uncertainties related to the availability and costs of renewable supplies for replenishment.

- What are the long-term uncertainties for the CAGR D related to the availability of renewable supplies for replenishment?
- What issues may arise as replenishment supply costs are borne by the CAGR D and passed on to its members?
- What improvements could be made to ADWR's oversight and review criteria of CAGR D Plans of Operation that would improve the long-term viability of the CAGR D or reduce uncertainties for its new and existing members?

BACKGROUND

In 1993, the Arizona State Legislature established the framework for a groundwater replenishment authority commonly referred to as the Central Arizona Groundwater Replenishment District (CAGR D), to be operated by the Central Arizona Water Conservation District (CAWCD). The purpose of the CAGR D is to provide a mechanism for landowners and municipal water providers in the Phoenix, Pinal and Tucson Active Managements Areas (AMAs) to demonstrate one of the assured supply criteria for groundwater under the Assured Water Supply (AWS) Rules, which became effective in 1995. Without the CAGR D, some developers and water providers would not be able to meet the AWS Program criterion of consistency with the management goal of the AMA.¹ CAGR D membership allows new subdivisions and municipal water providers lacking a Central Arizona Project (CAP) subcontract, or access to sufficient infrastructure to deliver CAP water or other renewable supplies, to develop using groundwater while demonstrating consistency with the management goal. The CAGR D mechanism thereby allows continued economic development in areas of the three AMAs without CAP allocations or with insufficient infrastructure to put their CAP allocation to use.

To satisfy the requirement that withdrawals of groundwater are consistent with the management goal, the CAGR D replenishes excess groundwater² pumped by or delivered to its members. In other words, CAGR D membership allows municipal water providers or landowners with an AWS to withdraw and use groundwater upfront, while the CAGR D replenishes the aquifer to offset the volume of excess groundwater withdrawn in an AMA by its members after the fact.

The CAGR D serves two types of members: member lands (MLs), which are individual subdivisions, and member service areas (MSAs), which are municipal water providers such as cities, towns, districts, or water companies that enroll all of the lands within their water service area. The developer of a subdivision may enroll the subdivision as

Commented [KF1]: Doesn't it really allow continued residential growth? I wouldn't call "subdivisions" economic development.

Commented [KF2]: Misleading. I would strike "with an AWS," or say to withdraw as use groundwater as an AWS."

¹ A.A.C. R12-15-722

² "Excess groundwater" is any amount of pumped groundwater beyond what is permitted by the AWS rules.

a ML in the CAGR D in order to obtain a certificate of AWS **if the developer has access to a volume of groundwater equal to 100 years of the projected use within the subdivision.**³ As of November 5, 2020, 1,194 subdivisions have enrolled as MLs in CAGR D, encompassing over 290,000 lots.⁴ A large number of ML subdivisions, particularly in the Pinal AMA, are enrolled in the CAGR D but have not yet been developed. The CAGR D 2015 Plan of Operation cites approximately 140,000 enrolled but unbuilt lots across the three AMAs served by the CAGR D.⁵

A municipal provider may enroll as an MSA in order to obtain a designation of AWS if its portfolio of water supplies includes groundwater requiring replenishment. There are currently 24 active MSAs enrolled in the CAGR D.⁶

The CAGR D is tasked with replenishing excess groundwater pumped by its members within three years. As excess groundwater pumping by CAGR D members increases⁷, the CAGR D must continually acquire water supplies for its replenishment obligations and for its replenishment reserve.⁸

The CAGR D is required by statute to submit for approval ~~to~~ **by** the Director of the Arizona Department of Water Resources (ADWR) at least every ten years a Plan of Operation (Plan) that conforms with the management goals of each AMA in its service area. The Plan must satisfy an extensive list of statutory planning requirements, showing the CAGR D's ability to meet projected replenishment obligations for its current and estimated near-term membership. The CAGR D does not need to demonstrate that its supplies are available for 100 years because the 100-year AWS criteria do not apply to the CAGR D itself.⁹ Consequently, the CAGR D has the ability to utilize supplies of less than 100 years in duration **but must also describe potentially available water supplies for the next 100 years to the satisfaction of the Director of ADWR.** This differs from the AWS requirements for obtaining and maintaining a Certificate or Designation of AWS **in which physically available supplies must be identified and available for the full 100-year period.** Since the CAGR D can make use of shorter-term water supplies, its water supply acquisition plans are often described as not competing with other entities, including its own members who seek to acquire long-term supplies for AWS designations.

Since its inception, the long-term uncertainty in supplies available to the CAGR D has been an issue in part because the CAGR D is ~~only~~ required to **initially identify in each plan only** the water supplies **available to the CAGR D it plans to use** for replenishment for twenty years and because of the CAGR D's early reliance on Excess CAP water to meet its replenishment obligations. Subsequently, numerous statutory changes as well as policy and rate adjustments by CAWCD have been implemented over time to mitigate this uncertainty. In 2003 and 2005, statutory changes were made to strengthen the ADWR Director's oversight and approval of the CAGR D Plan of Operation. Changes included requiring the CAGR D to identify water resources potentially available for the subsequent 80 years after the first 20 years of identified water **resources** and allowing the Director to require a revised Plan of Operation if

Formatted: Highlight

Commented [KF3]: There is no requirement to show access to groundwater before enrolling the land. In fact, enrollment often occurs before obtaining a CAWS. Why not just delete this clause?

Commented [KF4]: "after the excess groundwater is pumped."

Commented [KF5]: Seven things is not an extensive list. Just sayin'

Formatted: Highlight

Commented [KF6]: Inaccurate. CAGR D must describe the "water resources that are potentially available . . . during the subsequent eighty calendar years." The statute says, "plans to use" for the first 20 years, and "potentially available" for the next 80 years.

Formatted: Highlight

Commented [KF7]: Also misleading. Not every supply must be physically available for 100 years. There may be combinations of supplies, such as stored water and effluent.

Formatted: Highlight

Commented [KF8]: Though some would disagree with this notion.

Commented [KF9]: This paragraph and the previous one seem somewhat redundant. Consider merging.

³ The role of CAGR D and groundwater in the AWS Program is discussed in the *Groundwater in the Assured Water Supply Program Issue Brief*.

⁴ <https://cagrd.com/documents/enrollment/CAGR D-Member-Land-Enrollment-Summary.pdf>

⁵ 2015 Central Arizona Groundwater Replenishment District Plan of Operation, p. 3-6.

⁶ <https://cagrd.com/documents/enrollment/MSA-Enrollment-History-Member-Service-Area-List.pdf>

⁷ Increases in excess groundwater pumping are projected due to several factors, including the buildout of existing CAGR D member demands, the demands of new/future members, the depletion of alternative groundwater supplies such as groundwater allowances, and the restriction on groundwater allowances for Certificates or Designations issued after 2025.

⁸ A.R.S. §48-3771.A and A.R.S. §48-3771.C – "Except as provided by title 45, chapter 3.1, the district may replenish groundwater with central Arizona project water or water from any other lawfully available source except groundwater withdrawn from within an active management area."

⁹ In its 10-year Plan of Operation, CAGR D is required to show replenishment supplies in hand to meet replenishment obligations for 20 years as well as identify potentially available supplies for the subsequent 80 years.

there is either an unexpected increase in projected replenishment obligations or an unexpected reduction in water supplies available to meet the CAGRD's obligations.¹⁰

The CAGRD has worked to acquire a portfolio of supplies that is expected to be sufficient to meet its annual replenishment obligations in the coming decades.¹¹ In its early years, the CAGRD met its replenishment obligations primarily through the use of Excess CAP water. In recent years, the availability of Excess CAP water has decreased substantially, and it will likely be reduced or unavailable in the future.¹² The CAGRD has long planned for the reduced availability of Excess CAP water and for future Colorado River shortage impacts to its other supplies. This is evidenced by the establishment of its formal water acquisition program and its requirement to develop a replenishment reserve of long-term storage credits that can be utilized to meet its obligations and enhance rate stability in times of water supply shortage or infrastructure failure. Its acquisition program is guided by principles adopted by the CAWCD Board that seek a 50/50 mix of short-term and long-term supplies in anticipation of projected increases in replenishment obligations.

These efforts have produced the CAGRD acquiring to-date over 250,000 acre-feet of the 764,502 acre-feet targeted amount for the Replenishment Reserve in the 2015 Plan of Operation. Under its acquisition program, the CAGRD has acquired a total annual supply of approximately 44,000 acre-feet per year compared to the CAGRD's average annual replenishment obligation of approximately 30,000 acre-feet per year.¹³ In addition, the CAGRD has pending a Non-Indian Agricultural reallocation of 18,185 acre-feet per year and a lease from the White Mountain Apache Tribe for 2,500 acre-feet per year.

The CAGRD has also made adjustments to its policies and rate structure to mitigate for the uncertainty of future available supplies and their cost. For example, between 2015 and 2019, Activation Fees (paid by homebuilders) averaged a 33% increase per year for the Phoenix and Pinal AMAs, and a 27% increase per year in the Tucson AMA. Stakeholders agreed to this change during the development of the 2015 Plan of Operation in order to collect a more significant portion of funding for water supplies prior to homes being built and replenishment obligations being incurred, providing more equity among the CAGRD's members and ensuring that the CAGRD would have the funds necessary to purchase the additional replenishment supplies for the new obligation.

These incremental changes over the years have served to lessen the impact of the uncertainties in the future availability and costs of replenishment supplies for the CAGRD. However, with increased competition for limited supplies, rising acquisition costs, and the growing risk of reduced Colorado River supplies, concern remains that the steps taken to date to mitigate this uncertainty may not be adequate in the long-term and that more may need to be done to ensure the viability of the CAGRD for its current members.

ISSUE DESCRIPTION

The CAGRD has a unique responsibility to secure replenishment supplies to balance the amount of excess groundwater used by its growing membership. The Post-2025 AMAs Committee has identified three main questions related to the long-term availability and costs of renewable supplies for the CAGRD and its members to provide a starting point for evaluating opportunities for improvement that would benefit future AMA water management.

¹⁰ Such a finding can only be made between the second and eighth year of the current Plan of Operation. A.R.S. § 45-576.03(R).

¹¹ CAWCD Board Information Brief, November 19, 2020, pg. 12, <https://www.cap-az.com/documents/meetings/2020-11-19/1827-111920-WEB-Final-Packet-CAGRD.pdf>

¹² CAGRD 2019 Mid-Plan Review, p. 17.

¹³ CAGRD 2019 Mid-Plan Review.

Commented [KF10]: What does this mean? 20 years, 30, 40. Very vague and unsubstantiated. Cited document seems to say "near term."

Commented [KF11]: CAGRD itself admits that these supplies are subject to shortage. See slide 17 of citation below. "Need to mitigate supply shortfalls soon after expiration of GRIC lease."

Commented [KF12]: Increased growth on groundwater supplies requiring replenishment.

What are the long-term uncertainties for the CAGRD related to the availability of renewable supplies for replenishment?

One unique aspect that the CAGRD faces as it seeks to acquire new supplies is that groundwater could theoretically be more plentiful than renewable supplies, such that new AWS determinations that rely on CAGRD could continue to be issued based on physically available groundwater, while the CAGRD continues to be tasked with developing an equivalent renewable supply for replenishment beyond when it is reasonable to do so. In other words, if groundwater supplies continue to be available to meet the demands of new MLs and MSAs, there is the potential for a future shortfall in replenishment supplies for CAGRD members to remain consistent with the AMA management goal.

The CAGRD's 2015 Plan of Operation identified substantial supplies as potentially available in the long-term, some of which would be more firm than CAP supplies.¹⁴ Yet, the quantity and accessibility of renewable supplies realistically available in the future are as uncertain for the CAGRD as for other water users. Fewer available water supplies for acquisition beyond 2025 will likely lead to increased competition among the CAGRD and other entities seeking additional supplies for future use including large industrial users and municipal and private water utilities.¹⁵ In some cases, these entities are also CAGRD members or serving CAGRD member lands. The difficulties of acquiring these supplies beyond 2025 are compounded by the current complexities and contention surrounding the transfer of Colorado River water from the river to Central Arizona. Opposition from On-river interests to Colorado River mainstem transfers and the increasing cost of such water supplies may also have an impact on future CAGRD acquisition activities.¹⁶

At this time, the CAGRD appears to have sufficient supplies to meet its annual replenishment obligations until 2050.¹⁷ However, if future supplies become more limited or unavailable for acquisition by the CAGRD after 2025, potential future risks exist for certain communities that rely on the CAGRD for new development and economic growth in that they would not be able to comply with the AWS Program. If in the future, because of severe drought, increased competition and political opposition, the CAGRD is not successful in identifying sufficient available supplies to support new and existing membership per statute, new development will halt, and current Designations of AWS will likely be in jeopardy. Depending on the amount of supplies available to the CAGRD, a certain amount of incurred and future obligation may not get replenished. This would most likely have negative impacts on future development in areas without access to renewable supplies and on the State's economy as a whole, as well as contribute to increased volumes of unreplenished groundwater pumping by existing members of the CAGRD.

What issues may arise as replenishment supply costs are borne by the CAGRD and passed on to its members?

Since the CAGRD has a perpetual obligation to replenish excess groundwater used by its members, it must continually acquire replenishment supplies to meet that obligation. The costs for such acquisitions are anticipated to increase as availability of renewable water supplies decreases. The CAGRD is not a water provider, and its

Formatted: Highlight

Commented [KF13]: isn't this really "for CAGRD to be able to replenish all of the excess groundwater pumped by its members."

Formatted: Highlight

Commented [KF14]: as shown in the 2015 plan of operation

¹⁴ CAGRD 2015 Plan of Operation, p. 4-14.

¹⁵ *Long-Term Water Augmentation Options for Arizona*, Prepared for the Long-Term Water Augmentation Committee of the GWAICC by Carollo Engineers, Montgomery & Associates and WestLand Resources, Inc., <https://new.azwater.gov/sites/default/files/Long-Term%20Water%20Augmentation%20Options%20final.pdf>.

¹⁶ CAGRD 2019 Mid-Plan Review, p. 2.

¹⁷ CAWCD Board Information Brief, November 19, 2020, pg. 12, <https://www.cap-az.com/documents/meetings/2020-11-19/1827-111920-WEB-Final-Packet-CAGRD.pdf>.

revenue structure is also different from that of a municipal water provider. The CAGRD collects revenues through up-front fees paid by the landowner or developer, through annual membership dues, and through either an annual replenishment assessment (on ML property owners) or an annual replenishment tax (on MSAs) based on replenishment obligation volume. As such, long-term replenishment costs ultimately must be borne by the CAGRD member homeowners (MLs) or water providers (MSAs). For an ML homeowner, the CAGRD replenishment costs are incurred in addition to the monthly water service cost paid to the member's water provider.

For MLs, rising long-term replenishment costs might serve as an incentive to use less excess groundwater. However, after the development of a subdivision, the financial responsibility of CAGRD membership is borne by the ML homeowner and paid via property taxes to the county assessor's office. This structure was put in place to create certainty for the CAGRD in its revenue streams. But for the homeowner, this structure can create a disconnect between water use and its full cost. It does not incentivize water conservation, but rather hides the true cost of a renewable water supply in a property tax bill, often paid through a mortgage. The disconnect between water use and water cost through the CAGRD has the potential to inflate the replenishment obligation of the CAGRD.

The CAGRD has the financial authority to meet its replenishment obligations, but little analysis has been done regarding the growing fiscal impact to its members over the long-term and how in turn that could stress the CAGRD's structure in the future. The CAGRD's assessment rates increase annually to keep up with costs associated with expanded CAGRD requirements, including funding the Replenishment Reserve and the establishment of the water supply acquisition program, as well as its annual water supply costs. As an example, the CAGRD calculated that the 2018 acquisition of water and credits from the Gila River Indian Community and Gila River Water Storage LLC for a 25-year period would increase the CAGRD Phoenix AMA members' combined rates by 11-15 percent over the next two to three years.¹⁸ Although the actual rate increase in the Phoenix AMA has been lower than expected since that time, this demonstrates the CAWCD Board will most likely need to consider additional acquisitions with sizable impacts to CAGRD rates.

As replenishment costs increase, some members and large water users are starting to seek ways to reduce CAGRD costs. Since the CAGRD's current rates are bundled and assessed on the volume of reported excess groundwater, some members with larger water demands have pursued temporary avoidance of CAGRD replenishment obligation by acquiring short-term supplies like long-term storage credits (LTSCs) or extinguishment credits (ECs) to offset the amount of excess groundwater they report to CAGRD. This more recent practice can impact CAGRD members because the fixed costs of CAGRD replenishment are redistributed over fewer members. If this practice grows in the future, CAGRD has concluded it could weaken its ability to financially sustain itself.¹⁹ Overall, increasing water costs are not unique to the CAGRD but the impacts of how those costs are assessed on its members, often as a second charge for water use, and the implications for the CAGRD financial structure in the future are unclear.

What improvements could be made to ADWR's oversight and review criteria of CAGRD Plans of Operation that would improve the long-term viability of the CAGRD or reduce uncertainties for its new and existing members?

¹⁸ Central Arizona Water Conservation District Board of Directors Action Brief, *Discussion and Consideration of Action to Approve a Water Supply Acquisition and Association Agreements between CAGRD, Gila River Indian Community (GRIC) and Gila River Water Storage (GRWS)*, November 1, 2018.

¹⁹ CAWCD Board of Directors Information Brief, Report on and Discussion of Elliott D. Pollack & Co. Impact Report on Third-Party LTSC Sales to CAGRD Member Lands, Feb 16, 2017.

Under existing laws, the Director of ADWR must determine whether the CAGRD Plan of Operation is consistent with achieving the management goal of each AMA in CAGRD's service area. This action provides oversight on whether CAGRD has the water supplies and financial ability to meet its replenishment obligations. An approved Plan of Operation also determines if enrollment in CAGRD may continue and details the water supplies required to meet the replenishment obligations of those enrollments. If ADWR were to determine that the CAGRD Plan of Operation is not consistent with the management goal, a moratorium would be imposed on the enrollment of new members lands and cause the expiration of designations of AWS based on CAGRD membership, pursuant to A.R.S. § 45-576.06(A). Such a determination is viewed as a "worst case" outcome, however, and could be detrimental to the state's economy and complicate efforts to resolve the issues related to the Plan of Operation. As has occurred in the past 20 years when the CAGRD's statutory duties were revised and expanded, revisiting ADWR's oversight of CAGRD, including the criteria used by ADWR to review the CAGRD's Plan, could provide suggestions to improve the long-term sustainability of the CAGRD for the benefit of its current and future members.



February 02, 2021

Warren Tenney
Tim Thomure
Co-chairs Post-2025 AMAs Committee
C/o Arizona Department of Water Resources
1110 W Washington St #310
Phoenix, AZ 85007

Dear Mr. Tenney and Thomure:

CAWCD appreciates the opportunity to comment on the Post-2025 AMA Committee draft AWS Issue Brief and CAGRDR Issue Brief. CAWCD acknowledges the difficult and complex water policy challenges identified and described in both briefs. We want to thank the co-chairs and their staff for the work in melding a diverse set of perspectives into a document that accurately describes the CAGRDR and the context in which it operates. By simultaneously releasing issue briefs on the Assured Water Supply and CAGRDR, it supports our perspective these issues are inexorably linked and any change to one must be weighed against the impact on the other.

As many in the Arizona water community know, these issues are not new and have been the subject of much discussion and debate for several decades. As reflected in the draft CAGRDR Issue Brief, numerous statutory and policy changes have been implemented over time to reduce the uncertainty of future replenishment supplies and cost to CAGRDR and its members. Some of these changes have included: 1) the creation of the Replenishment Reserve, 2) increased regulatory oversight by ADWR over CAGRDR's Plan of Operations and its requirements, 3) statutory authority for CAGRDR to bond, 4) the development of CAGRDR's Water Supply Program, 5) the creation of CAGRDR Annual Membership Dues, and numerous adjustments to CAGRDR's rates and policies by CAWCD's Board of Directors to provide for more equitable distribution of CAGRDR costs among its members. Since its inception, CAGRDR has continued to evolve to better serve its members, reliably meet its statutory obligations and support economic growth of Arizona.

With that said, CAWCD also acknowledges the importance of the Post-2025 AMA Committee's work to take a forward looking approach and consider how changing conditions to local and regional water supply availability, increasing competition for existing supplies, and rising costs could impact both CAGRDR and non CAGRDR entities after 2025. CAWCD believes the AWS and CAGRDR draft Issue

Briefs generally provide a balanced overview of the water policy issues at play given the numerous and often times conflicting perspectives on these issues. One specific observation CAWCD would like to make, is the inclusion of inferred solutions in the CAGRDR Issue Brief. While CAWCD does not necessarily disagree with the potential solutions mentioned, such as strengthening ADWR oversight or adding Plan of Operation requirements, unlike the other Issues Briefs developed by the Committee, this Issue Brief appears to move immediately to potential solutions. CAWCD would recommend that inferences to solutions be removed from the CAGRDR Issue Brief and that the Committee refrain from identifying potential solutions until after the Issue Briefs have been taken to the full GWAICC for their consideration.

CAWCD has appreciated working with the Co-Chairs and ADWR directly as they have developed the subject issue briefs. As this work moves to the GWAICC, CAP will continue to remain engaged and supportive of the Committee's effort to evaluate solutions for the issues identified.

Sincerely,

Laura Grignano

Laura Grignano
CAGRDR Manager
Central Arizona Project
(623)869-2113
lgrignano@cap-az.com

CAP Edits

*Governor's Water Augmentation, Innovation and Conservation Council
Post-2025 AMAs Committee*

DRAFT ISSUE BRIEF

CAGRD REPLENISHMENT AND WATER SUPPLIES

ISSUE STATEMENT

The Central Arizona Groundwater Replenishment District (CAGRD) provides a mechanism to replenish some of the Assured Water Supply related groundwater use within three Active Management Areas. However, the CAGRD and its members face long-term uncertainties related to the availability and costs of renewable supplies for replenishment.

- What are the long-term uncertainties for the CAGRD related to the availability of renewable supplies for replenishment?
- What issues may arise as replenishment supply costs are borne by the CAGRD and passed on to its members?
- What improvements could be made to ADWR's oversight and review criteria of CAGRD Plans of Operation that would improve the long-term viability of the CAGRD or reduce uncertainties for its new and existing members?

BACKGROUND

In 1993, the Arizona State Legislature established the framework for a groundwater replenishment authority commonly referred to as the Central Arizona Groundwater Replenishment District (CAGRD), to be operated by the Central Arizona Water Conservation District (CAWCD). The purpose of the CAGRD is to provide a mechanism for landowners and municipal water providers in the Phoenix, Pinal and Tucson Active Managements Areas (AMAs) to demonstrate one of the assured supply criteria for groundwater under the Assured Water Supply (AWS) Rules, which became effective in 1995. Without the CAGRD, some developers and water providers would not be able to meet the AWS Program criterion of consistency with the management goal of the AMA.¹ CAGRD membership allows new subdivisions and municipal water providers lacking a Central Arizona Project (CAP) subcontract, or access to sufficient infrastructure to deliver CAP water or other renewable supplies, to develop using groundwater while demonstrating consistency with the management goal. The CAGRD mechanism thereby allows continued economic development in areas of the three AMAs without CAP allocations or with insufficient infrastructure to put their CAP allocation to use.

To satisfy the requirement that withdrawals of groundwater are consistent with the management goal, the CAGRD replenishes excess groundwater² pumped by or delivered to its members. In other words, CAGRD membership allows municipal water providers or landowners with an AWS to withdraw and use groundwater upfront, while the CAGRD replenishes the aquifer to offset the volume of excess groundwater withdrawn in an AMA by its members after the fact.

The CAGRD serves two types of members: member lands (MLs), which are individual subdivisions, and member service areas (MSAs), which are municipal water providers such as cities, towns, districts, or water companies that enroll all of the lands within their water service area. The developer of a subdivision may enroll the subdivision as

¹ A.A.C. R12-15-722

² "Excess groundwater" is any amount of pumped groundwater beyond what is permitted by the AWS rules.

a ML in the CAGR D in order to obtain a certificate of AWS if the developer has access to a volume of groundwater equal to 100 years of the projected use within the subdivision.³ As of November 5, 2020, 1,194 subdivisions have enrolled as MLs in CAGR D, encompassing over 290,000 lots.⁴ A large number of ML subdivisions, particularly in the Pinal AMA, are enrolled in the CAGR D but have not yet been developed. The CAGR D 2015 Plan of Operation cites approximately 140,000 enrolled but unbuilt lots across the three AMAs served by the CAGR D.⁵

A municipal provider may enroll as an MSA in order to obtain a designation of AWS if its portfolio of water supplies includes groundwater requiring replenishment. There are currently 24 active MSAs enrolled in the CAGR D.⁶

The CAGR D is tasked with replenishing excess groundwater pumped by its members within three years. As excess groundwater pumping by CAGR D members increases⁷, the CAGR D must continually acquire water supplies for its replenishment obligations and for its replenishment reserve.⁸

The CAGR D is required by statute to submit for approval to the Director of the Arizona Department of Water Resources (ADWR) at least every ten years a Plan of Operation (Plan) that conforms with the management goals of each AMA in its service area. The Plan must satisfy an extensive list of statutory planning requirements, showing the CAGR D's ability to meet projected replenishment obligations for its current and estimated near-term membership. The CAGR D does not need to demonstrate that its supplies are available for 100 years because the 100-year AWS criteria do not apply to the CAGR D itself.⁹ Consequently, the CAGR D has the ability to utilize supplies of less than 100 years in duration but must also describe potentially available water supplies for the next 100 years to the satisfaction of the Director of ADWR. This differs from the AWS requirements for obtaining and maintaining a Certificate or Designation of AWS in which physically available supplies must be identified and available for the full 100-year period. Since the CAGR D can make use of shorter-term water supplies, its water supply acquisition plans are often described as not competing with other entities, including its own members who seek to acquire long-term supplies for AWS designations.

Since its inception, the long-term uncertainty in supplies available to the CAGR D has been an issue in part because the CAGR D is only required to identify the water supplies available to the CAGR D for replenishment for twenty years and because of the CAGR D's early reliance on Excess CAP water to meet its replenishment obligations. Subsequently, numerous statutory changes as well as policy and rate adjustments by CAWCD have been implemented over time to mitigate this uncertainty. In 2003 and 2005, statutory changes were made to strengthen the ADWR Director's oversight and approval of the CAGR D Plan of Operation. Changes included requiring the CAGR D to identify water resources potentially available for the subsequent 80 years after the first 20 years of identified water resources and ~~allowing necessitate~~ the Director to require a revised Plan of Operation

Commented [A1]: ARS 45-576.03.R: "...the director **shall** require the conservation district to submit a revised plan for operation." Emphasis ours.

³ The role of CAGR D and groundwater in the AWS Program is discussed in the *Groundwater in the Assured Water Supply Program Issue Brief*.

⁴ <https://cagrd.com/documents/enrollment/CAGR D-Member-Land-Enrollment-Summary.pdf>

⁵ 2015 Central Arizona Groundwater Replenishment District Plan of Operation, p. 3-6.

⁶ <https://cagrd.com/documents/enrollment/MSA-Enrollment-History-Member-Service-Area-List.pdf>

⁷ Increases in excess groundwater pumping are projected due to several factors, including the buildout of existing CAGR D member demands, the demands of new/future members, the depletion of alternative groundwater supplies such as groundwater allowances, and the restriction on groundwater allowances for Certificates or Designations issued after 2025.

⁸ A.R.S. §48-3771.A and A.R.S. §48-3771.C – "Except as provided by title 45, chapter 3.1, the district may replenish groundwater with central Arizona project water or water from any other lawfully available source except groundwater withdrawn from within an active management area."

⁹ In its 10-year Plan of Operation, CAGR D is required to show replenishment supplies in hand to meet replenishment obligations for 20 years as well as identify potentially available supplies for the subsequent 80 years.

if there is either an unexpected increase in projected replenishment obligations or an unexpected reduction in water supplies available to meet the CAGRD's obligations.¹⁰

The CAGRD has worked to acquire a portfolio of supplies that is expected to be sufficient to meet its annual replenishment obligations in the coming decades.¹¹ In its early years, the CAGRD met its replenishment obligations primarily through the use of Excess CAP water. In recent years, the availability of Excess CAP water has decreased substantially, and it will likely be reduced or unavailable in the future.¹² The CAGRD has long planned for the reduced availability of Excess CAP water and for future Colorado River shortage impacts to its other supplies. This is evidenced by the establishment of its formal water acquisition program and its requirement to develop a replenishment reserve of long-term storage credits that can be utilized to meet its obligations and enhance rate stability in times of water supply shortage or infrastructure failure. Its acquisition program is guided by principles adopted by the CAWCD Board that seek a 50/50 mix of short-term and long-term supplies in anticipation of projected increases in replenishment obligations.

These efforts have produced the CAGRD acquiring to-date over 250,000 acre-feet of the 764,502 acre-feet targeted amount for the Replenishment Reserve in the 2015 Plan of Operation. Under its acquisition program, the CAGRD has acquired a total annual supply of approximately 44,000 acre-feet per year compared to the CAGRD's average annual replenishment obligation of approximately 30,000 acre-feet per year.¹³ In addition, the CAGRD has pending a Non-Indian Agricultural reallocation of 18,185 acre-feet per year and a lease from the White Mountain Apache Tribe for 2,500 acre-feet per year.

The CAGRD has also made adjustments to its policies and rate structure to mitigate for the uncertainty of future available supplies and their cost. For example, between 2015 and 2019, Activation Fees (paid by homebuilders) averaged a 33% increase per year for the Phoenix and Pinal AMAs, and a 27% increase per year in the Tucson AMA. Stakeholders agreed to this change during the development of the 2015 Plan of Operation in order to collect a more significant portion of funding for water supplies prior to homes being built and replenishment obligations being incurred, providing more equity among the CAGRD's members and ensuring that the CAGRD would have the funds necessary to purchase the additional replenishment supplies for the new obligation.

These incremental changes over the years have served to lessen the impact of the uncertainties in the future availability and costs of replenishment supplies for the CAGRD. However, with increased competition for limited supplies, rising acquisition costs, and the growing risk of reduced Colorado River supplies, concern remains that the steps taken to date to mitigate this uncertainty may not be adequate in the long-term and that more may need to be done to ensure the viability of the CAGRD for its current members.

ISSUE DESCRIPTION

The CAGRD has a unique responsibility to secure replenishment supplies to balance the amount of excess groundwater used by its growing membership. The Post-2025 AMAs Committee has identified three main questions related to the long-term availability and costs of renewable supplies for the CAGRD and its members to provide a starting point for evaluating opportunities for improvement that would benefit future AMA water management.

¹⁰ Such a finding can only be made between the second and eighth year of the current Plan of Operation. A.R.S. § 45-576.03(R).

¹¹ CAWCD Board Information Brief, November 19, 2020, pg. 12, <https://www.cap-az.com/documents/meetings/2020-11-19/1827-111920-WEB-Final-Packet-CAGRD.pdf>

¹² CAGRD 2019 Mid-Plan Review, p. 17.

¹³ CAGRD 2019 Mid-Plan Review.

What are the long-term uncertainties for the CAGRDR related to the availability of renewable supplies for replenishment?

One unique aspect that the CAGRDR faces as it seeks to acquire new supplies is that groundwater could theoretically be more plentiful than renewable supplies, such that new AWS determinations that rely on CAGRDR could continue to be issued based on physically available groundwater, while the CAGRDR continues to be tasked with developing an equivalent renewable supply for replenishment beyond when it is reasonable to do so. In other words, if groundwater supplies continue to be available to meet the demands of new MLs and MSAs, there is the potential for a future shortfall in replenishment supplies for CAGRDR members to remain consistent with the AMA management goal.

The CAGRDR's 2015 Plan of Operation identified substantial supplies as potentially available in the long-term, some of which would be more firm than CAP supplies.¹⁴ Yet, the quantity and accessibility of renewable supplies realistically available in the future are as uncertain for the CAGRDR as for other water users. Fewer available water supplies for acquisition beyond 2025 will likely lead to increased competition among the CAGRDR and other entities seeking additional supplies for future use including large industrial users and municipal and private water utilities.¹⁵ In some cases, these entities are also CAGRDR members or serving CAGRDR member lands. The difficulties of acquiring these supplies beyond 2025 are compounded by the current complexities and contention surrounding the transfer of Colorado River water from the river to Central Arizona. Opposition from On-river interests to Colorado River mainstem transfers and the increasing cost of such water supplies may also have an impact on future CAGRDR acquisition activities.¹⁶

At this time, the CAGRDR appears to have sufficient supplies to meet its annual replenishment obligations until 2050.¹⁷ However, if future supplies become more limited or unavailable for acquisition by the CAGRDR after 2025, potential future risks exist for certain communities that rely on the CAGRDR for new development and economic growth in that they would not be able to comply with the AWS Program. If in the future, because of severe drought, increased competition and political opposition, the CAGRDR is not successful in identifying sufficient available supplies to support new and existing membership per statute, new development will halt, and current Designations of AWS will likely be in jeopardy. Depending on the amount of supplies available to the CAGRDR, a certain amount of incurred and future obligation may not get replenished. This would most likely have negative impacts on future development in areas without access to renewable supplies and on the State's economy as a whole, as well as contribute to increased volumes of unreplenished groundwater pumping by existing members of the CAGRDR.

What issues may arise as replenishment supply costs are borne by the CAGRDR and passed on to its members?

Since the CAGRDR has a perpetual obligation to replenish excess groundwater used by its members, it must continually acquire replenishment supplies to meet that obligation. The costs for such acquisitions are anticipated to increase as availability of renewable water supplies decreases. The CAGRDR is not a water provider, and its

¹⁴ CAGRDR 2015 Plan of Operation, p. 4-14.

¹⁵ *Long-Term Water Augmentation Options for Arizona*, Prepared for the Long-Term Water Augmentation Committee of the GWAICC by Carollo Engineers, Montgomery & Associates and WestLand Resources, Inc., <https://new.azwater.gov/sites/default/files/Long-Term%20Water%20Augmentation%20Options%20final.pdf>.

¹⁶ CAGRDR 2019 Mid-Plan Review, p. 2.

¹⁷ CAWCD Board Information Brief, November 19, 2020, pg. 12, <https://www.cap-az.com/documents/meetings/2020-11-19/1827-111920-WEB-Final-Packet-CAGRDR.pdf>.

revenue structure is also different from that of a municipal water provider. The CAGRD collects revenues through up-front fees paid by the landowner or developer, through annual membership dues, and through either an annual replenishment assessment (on ML property owners) or an annual replenishment tax (on MSAs) based on replenishment obligation volume. As such, long-term replenishment costs ultimately must be borne by the CAGRD member homeowners (MLs) or water providers (MSAs). For an ML homeowner, the CAGRD replenishment costs are incurred in addition to the monthly water service cost paid to the member's water provider.

For MLs, rising long-term replenishment costs might serve as an incentive to use less excess groundwater. However, after the development of a subdivision, the financial responsibility of CAGRD membership is borne by the ML homeowner and paid via property taxes to the county assessor's office. This structure was put in place to create certainty for the CAGRD in its revenue streams. But for the homeowner, this structure can create a disconnect between water use and its full cost. **It does not incentivize water conservation, but rather hides the true cost of a renewable water supply in a property tax bill, often paid through a mortgage.** The disconnect between water use and water cost through the CAGRD has the potential to inflate the replenishment obligation of the CAGRD.

The CAGRD has the financial authority to meet its replenishment obligations, but little analysis has been done regarding the growing fiscal impact to its members over the long-term and how in turn that could stress the CAGRD's structure in the future. The CAGRD's assessment rates increase annually to keep up with costs associated with expanded CAGRD requirements, including funding the Replenishment Reserve and the establishment of the water supply acquisition program, as well as its annual water supply costs. As an example, the CAGRD calculated that the 2018 acquisition of water and credits from the Gila River Indian Community and Gila River Water Storage LLC for a 25-year period would increase the CAGRD Phoenix AMA members' combined rates by 11-15 percent over the next two to three years.¹⁸ Although the actual rate increase in the Phoenix AMA has been lower than expected since that time, this demonstrates the CAWCD Board will most likely need to consider additional acquisitions with sizable impacts to CAGRD rates.

As replenishment costs increase, some members and large water users are starting to seek ways to reduce CAGRD costs. Since the CAGRD's current rates are bundled and assessed on the volume of reported excess groundwater, some members with larger water demands have pursued temporary avoidance of CAGRD replenishment obligation by acquiring short-term supplies like long-term storage credits (LTSCs) or extinguishment credits (ECs) to offset the amount of excess groundwater they report to CAGRD. This more recent practice can impact CAGRD members because the fixed costs of CAGRD replenishment are redistributed over fewer members. If this practice grows in the future, CAGRD has concluded it could weaken its ability to financially sustain itself.¹⁹ Overall, increasing water costs are not unique to the CAGRD but the impacts of how those costs are assessed on its members, often as a second charge for water use, and the implications for the CAGRD financial structure in the future are unclear.

What improvements could be made to ADWR's oversight and review criteria of CAGRD Plans of Operation that would improve the long-term viability of the CAGRD or reduce uncertainties for its new and existing members?

¹⁸ Central Arizona Water Conservation District Board of Directors Action Brief, *Discussion and Consideration of Action to Approve a Water Supply Acquisition and Association Agreements between CAGRD, Gila River Indian Community (GRIC) and Gila River Water Storage (GRWS)*, November 1, 2018.

¹⁹ CAWCD Board of Directors Information Brief, Report on and Discussion of Elliott D. Pollack & Co. Impact Report on Third-Party LTSC Sales to CAGRD Member Lands, Feb 16, 2017.

Commented [A2]: CAP notes that "hides" implies there is an active attempt to obfuscate the cost of water. Further, as ML homeowners pay a replenishment fee based on water used, a reduction in water use directly lowers the amount paid on the property tax statement.

To support the valid question and points raised in this section, we suggest replacing this sentence and including additional details to include:

- 1) As property tax bills are frequently paid through escrow via a mortgage payment, the true cost of water service and benefits of conserving water are not readily apparent to homeowners. With 67% of US homeowners carrying a mortgage, this suggests the possibility of a widespread lack of understanding of water's true cost. (<https://www.bloomberg.com/news/articles/2019-07-17/close-to-40-of-u-s-homes-are-free-and-clear-of-a-mortgage>)
- 2) By CAGRD's replenishment costs being paid by the homeowner, the water provider may not have sufficient endowment to conserve water beyond the requirements contained in the management plans for each AMA. Smaller water providers may not have the resources available for water conservation and privately-owned water providers may need to limit conservation activities in order to obtain Arizona Corporation Commission approval on rates.

Commented [A3]: CAP has highlighted the portion in support of our cover letter. While we don't dispute the ADWR's oversight over the Plan of Operations or the development of the Plan should change over time, suggesting an "improvement" requires an identification of a specific problem. Failing to identify precisely what the problem is can lead to unsuccessful solutions, or possibly a change that exacerbates a true problem.

Under existing laws, the Director of ADWR must determine whether the CAGRD Plan of Operation is consistent with achieving the management goal of each AMA in CAGRD's service area. This action provides oversight on whether CAGRD has the water supplies and financial ability to meet its replenishment obligations. An approved Plan of Operation also determines if enrollment in CAGRD may continue and details the water supplies required to meet the replenishment obligations of those enrollments. If ADWR were to determine that the CAGRD Plan of Operation is not consistent with the management goal, a moratorium would be imposed on the enrollment of new members lands and cause the expiration of designations of AWS based on CAGRD membership, pursuant to A.R.S. § 45-576.06(A). Such a determination is viewed as a "worst case" outcome, however, and could be detrimental to the state's economy and complicate efforts to resolve the issues related to the Plan of Operation. As has occurred in the past 20 years when the CAGRD's statutory duties were revised and expanded, revisiting ADWR's oversight of CAGRD, including the criteria used by ADWR to review the CAGRD's Plan, could provide suggestions to improve the long-term sustainability of the CAGRD for the benefit of its current and future members.

From: "Robert S. Lynch" <RSLynch@rslynchaty.com>

Date: Tuesday, February 2, 2021 at 5:06 PM

To: Warren Tenney <wtenney@amwua.org>

Cc: "Tim Thomure, P.E." <timothy.thomure@tucsonaz.gov>, Theresa Johnson <tjohnson@azwater.gov>, Carol Ward <cward@azwater.gov>, Robert Lynch <rslynch@rslynchaty.com>

Subject: Comments on the two issue briefs requested by February 2, 2021

Mr. Tenney:

I am writing you in response to your request for comments. These comments are mine alone and do not represent the positions of any client of the firm.

The problems outlined in the issue brief on Groundwater and the Assured Water Supply Program touch on several important issues but also fail to discuss important contemporary issues that affect water use in Arizona.

1. The current problems go all the way back to our initial water code in 1919. While our sister states of Nevada and New Mexico were applying the Appropriation Doctrine to groundwater, we decided to use the "common bowl theory", that is, everybody can put a straw in the bowl and the person with the deepest straw wins. That decision relatively quickly brought up issues about whether a well was adversely influencing a surface water and what the rules should be about wells that are in or near watercourses. In 1935, the Supreme Court addressed this issue: where the well was drilled outside the ordinary high water line of a watercourse, it would be presumed to be groundwater; where a well was drilled inside the ordinary high water line, it would be presumed to be surface water.

These presumptions served us well until the late 1990's when these presumptions ran headlong into the hydrology of the Safford Valley, which could not be accommodated by such a simple set of principles. Thus was born the red line concept when the Arizona Department of Water Resources (ADWR) convinced the Arizona Supreme Court that it did not have the resources at the time to go out and test all of these wells but could map the saturated holocene alluvium and thus create a more sophisticated application of the 1935 decision. From then on, if you had a groundwater well or what you thought was a groundwater well and it ended up inside the red line boundaries described by ADWR, you had a problem if you didn't also have a surface water right. That problem is being compounded by arguments over cone of depression and even implications of the Endangered Species Act as weapons to stop groundwater pumping nowhere near a watercourse but pumping subsurface water that ultimately might flow to the watercourse. Whatever one might say about somebody who drilled a well near or somewhat near a watercourse after the late 1990's, a very large population of people followed the law as announced in 1935 and now are at risk. As the law develops in the adjudication process, the

tension between groundwater and surface water increases and the problem of trying to find renewable water supplies outlined in your paper is compounded.

Along the way, the courts have clarified (or expanded) the Winters Doctrine, the implied reservation of rights doctrine, which we were taught in law school only applied to surface water, to affect groundwater and even water quality issues. Since the Winters Doctrine carries with it priority dates, when juxtaposed with our “common bowl theory” groundwater law, things don’t fit. There are constitutional limitations on what you can do about this situation, but the plain fact of the matter is that not just future groundwater uses for growth are being questioned but existing uses as well. In short, as good an effort as the paper makes to outline the panoply of problems facing us with regard to future water supplies, it has not dealt with the elephant in the room. Since the issues concerning the elephant are largely judicially created, it is judicial action that likely will be the avenue to further clarify (or expand) the problem. The paper is obviously well done. It needs expanding.

2. The second paper concerning the Central Arizona Groundwater Replenishment District (CAGRD) starts from a familiar and erroneous posture. While the paper acknowledges that the authority for groundwater replenishment, usually referred to as the CAGRD, was an authority granted the Central Arizona Water Conservation District (CAWCD), the paper then continually talks about CAGRD as if it were a thing, not a bank account. In my view, the public would be better served if the paper was rewritten to clarify that the CAGRD is not a separate legal entity.

Apart from that, the problems outlined in the paper have their antecedents in the 1980 Groundwater Act long before the creation of this program in 1993. One overriding assumption in negotiating that bill, to which I was a party, was that new development would occur on existing farmland. In short, everyone believed that developers would buy farmland, but the law didn’t require it. Additionally, cities and towns were given a pass on the 100-year water supply criterion within their service areas which they could easily expand to include adjacent desert. Desert was cheaper than farmland and a number of desert subdivisions sprang up as annexation wars among municipalities continued. In the early 1990’s, the Legislature and everyone else realized that this assumption of 100-year water supply was fraught with danger and lumped municipalities into the pot with everyone else about having to prove a 100-year water supply, not just have it assumed.

Thus was born the augmentation program which was given to CAWCD. It early on acquired its label, CAGRD, even though it was a bank account. The augmentation program was intended to acquire renewable water supplies that would “back the play” of developers who had moved onto desert land instead of buying farms. The inherent problem was, of course, that there wasn’t any unallocated surface water available in Arizona and none of our sister states were in a position to donate water supplies to us, even if they wanted to, which they didn’t. Thus, we initiated a zero sum game. In order to have renewable water supplies added to existing supplies for the three Active Management Areas (AMAs), someone else’s renewable water supply, i.e., surface water rights or contracts, had to be transferred. While some early gambits

were successful, we now have what amounts to an ongoing war between people along the Colorado River with various priorities for Colorado River water and central Arizona. The dust-up noted in the paper about the Town of Queen Creek is just the point of the spear. Additionally, the CRITS, if the federal legislation they are requesting, on the assumption that they need it, is passed, will bring Priority 1 water to what is obviously a constrained market. When it is sliced up and partially transferred to central Arizona or elsewhere, the list of willing sellers to central Arizona may be excruciatingly limited.

I don't pretend to have answers to these questions, either the ones in the papers or the ones I have added to that array. As an attorney, I am taught to see the problems and the questions. Very seldom are we in the answer business.

This committee is doing a fine job in trying to identify issues. It is, frankly, a nasty business but the issues I've mentioned can't be ignored and need to be part of the conversation.

I wish you luck. This may not be a task for Hercules but, in my view, it is not far off that mark.

Bob Lynch

Robert S. Lynch
Robert S. Lynch & Associates
340 E. Palm Lane, Suite 140
Phoenix, Arizona 85004-4603
Phone: (602) 254-5908
Fax: (602) 247-9542
Cell: (602) 228-6355
E-mail: rslynch@rslynchaty.com

DRAFT ISSUE BRIEF

CAGRDR: A LOOK AT REPLENISHMENT AND WATER SUPPLIES POST 2025

Formatted: Font: Italic

ISSUE STATEMENT

NOTE: Groundwater withdrawals, recharge and replenishment and the availability of water supplies are important topics facing Arizona and Arizona water users in the future. While these issues are not limited to the CAGRDR, this Issue Brief attempts to examine matters specifically related to the CAGRDR. The impact of these issues on other entities and water providers will be explored in other Briefs.

Formatted: Font: Italic

Formatted: Font: Italic

Formatted: Font: Italic

Formatted: Font: Italic

Formatted: Font: Italic

Formatted: Font: Italic

The Central Arizona Groundwater Replenishment District (CAGRDR) is a statutorily approved provides a mechanism to replenish groundwater within the three Active Management Areas in the CAP service area to meet some of the Assured Water Supply requirements. related groundwater use within three Active Management Areas. However, Like other water interests in Arizona, post 2025 the CAGRDR and its members will face long-term uncertainties related to the availability and costs of renewable supplies for replenishment. With specific respect to the CAGRDR, this brief will attempt to look at and answer the following questions:

- What are theAre there long-term uncertainties for the CAGRDR related to the availability of renewable supplies for replenishment and if so, what are they?
- If replenishment costs continue to increase as expected, what are there any related issues that may arise for the CAGRDR and its members, and if so, how significant are they and what could be done to solve or mitigate them? What issues may arise as replenishment supply costs are borne by the CAGRDR and passed on to its members?
- What improvements could be made to ADWR's oversight and review criteria of CAGRDR Plans of Operation that would Beyond 2025, it will be important to improve theensure the long-term viability of the CAGRDR and/or reduce uncertainties for its new and existing members. Are improvements needed to the CAGRDR Plan of Operations and ADWR's oversight that would help ensure this? If so, what are they?

BACKGROUND

In 1993, the Arizona State Legislature established the framework for a groundwater replenishment authority commonly referred to as that is known as the Central Arizona Groundwater Replenishment District (CAGRDR). The CAGRDR is, to be operated by the Central Arizona Water Conservation District (CAWCD) with is governed by the publicly elected CAWCD Board of Directors. The CAGRDR was placed within CAWCD because the Legislature did not want to create another water entity from scratch and because the CAWCD was operating multiple recharge sites constructed under the State Demonstration Recharge program that also could be used for groundwater replenishment.

The purpose of the CAGRDR is to provide a mechanism for landowners and municipal water providers in the Phoenix, Pinal and Tucson Active Managements Areas (AMAs) to demonstrate one of the assured supply criteria for groundwater under the Assured Water Supply (AWS) Rules, which became effective in 1995. Without tThe CAGRDR, ensures that developments some developers and water providers would not be able to are able to meet

the AWS Program ~~criteria criterion~~ of consistency with the management goal of the AMA.¹ As provided for in statute, and consistent with its intent, membership in the CAGRD ~~membership~~ allows new subdivisions and municipal water providers lacking a Central Arizona Project (CAP) subcontract, or access to sufficient infrastructure to deliver CAP water or other renewable supplies, to ~~proceed develop~~ using groundwater while demonstrating consistency with the management goal. ~~Without the CAGRD mechanism thereby allows continued the past, present and future economic development in numerous areas within of the three AMAs simply would not occur. without CAP allocations or with insufficient infrastructure to put their CAP allocation to use.~~

~~Consistent with the AMA management goals and AWS requirements, To satisfy the requirement that withdrawals of groundwater are consistent with the management goal, the CAGRD replenishes excess groundwater² pumped by or delivered to its members. In other words, the primary function of the CAGRD is to replenish the aquifer to offset volumes of excess groundwater withdrawn in an AMA by membership allows municipal water providers or landowners with an AWS to withdraw and use groundwater upfront, while the CAGRD replenishes the aquifer to offset the volume of excess groundwater withdrawn in an AMA by its members after the fact.~~

The CAGRD serves two types of members: member lands (MLs), which are individual subdivisions, and member service areas (MSAs), which are municipal water providers such as cities, towns, districts, or water companies that enroll all of the lands within their water service area. The developer of a subdivision may enroll the subdivision as a ML in the CAGRD in order to obtain a certificate of AWS if the developer has access to a volume of groundwater equal to 100 years of the projected use within the subdivision.³ As of November 5, 2020, 1,194 subdivisions have enrolled as MLs in CAGRD, encompassing over 290,000 lots.⁴ A large number of ML subdivisions, particularly in the Pinal AMA, are enrolled in the CAGRD but have not yet been developed. The CAGRD 2015 Plan of Operation cites approximately 140,000 enrolled but unbuilt lots across the three AMAs served by the CAGRD.⁵ The replenishment obligation of the CAGRD is not based on the number of subdivisions or lots enrolled but the actual groundwater use of those subdivisions that have been built.

A municipal provider may enroll as an MSA in order to obtain a designation of AWS if its portfolio of water supplies includes groundwater requiring replenishment. There are currently 24 active MSAs enrolled in the CAGRD.⁶

The CAGRD is tasked with replenishing excess groundwater pumped by its members within three years. As excess groundwater pumping by CAGRD members increases⁷, the CAGRD must ~~continually~~ acquire water supplies for to meet those ~~its~~ replenishment obligations and for its replenishment reserve.⁸

The CAGRD is required by statute to submit for approval to the Director of the Arizona Department of Water Resources (ADWR) at least every ten years a Plan of Operation (Plan) that conforms with the management goals

¹ A.A.C. R12-15-722

² "Excess groundwater" is any amount of pumped groundwater beyond what is permitted by the AWS rules.

³ The role of CAGRD and groundwater in the AWS Program is discussed in the *Groundwater in the Assured Water Supply Program Issue Brief*.

⁴ <https://cagrd.com/documents/enrollment/CAGRD-Member-Land-Enrollment-Summary.pdf>

⁵ 2015 Central Arizona Groundwater Replenishment District Plan of Operation, p. 3-6.

⁶ <https://cagrd.com/documents/enrollment/MSA-Enrollment-History-Member-Service-Area-List.pdf>

⁷ Increases in excess groundwater pumping are projected due to several factors, including the buildout of existing CAGRD member demands, the demands of new/future members, the depletion of alternative groundwater supplies such as groundwater allowances, and the restriction on groundwater allowances for Certificates or Designations issued after 2025.

⁸ A.R.S. §48-3771.A and A.R.S. §48-3771.C – "Except as provided by title 45, chapter 3.1, the district may replenish groundwater with central Arizona project water or water from any other lawfully available source except groundwater withdrawn from within an active management area."

of each AMA in its service area. Additionally, CAGRDR conducts a “mid-plan review” to gauge whether the Plan is on track. The Plan must satisfy an extensive list of statutory planning requirements, showing the CAGRDR’s ability to meet projected replenishment obligations for its current and estimated near-term and long-term membership. The CAGRDR does not need to demonstrate that its supplies are available for 100 years because CAGRDR is not the actual water provider and the 100-year AWS criteria do not apply to the CAGRDR itself.⁹ Consequently, This allows the CAGRDR has the ability to utilize supplies of less than 100 years in duration but it must also describe potentially available water supplies for the next 100 years to the satisfaction of the Director of ADWR. This differs from the AWS requirements for obtaining and maintaining a Certificate or Designation of AWS in which physically available supplies must be identified and available for the full 100-year period.¹⁰ Since the CAGRDR can make use of shorter-term water supplies, its water supply acquisition plans are often described as not competing with other entities, including its own members who seek to acquire long-term supplies for AWS designations. It is important to note that CAGRDR relies not only on these shorter term supplies but has also acquired longer term supplies such as CAP M&I subcontracts and has generally sought to balance short and long term supplies as part of its water supply portfolio.¹¹

Since its inception, the long-term uncertainty of available in-supplies available to the has been an issue the CAGRDR has had to navigate in part been an issue in part because the CAGRDR is only required to identify the water supplies available to the CAGRDR for replenishment for twenty years and because of the CAGRDR’s early reliance on Excess CAP water to meet its replenishment obligations (discussed further below). Subsequently Additionally, numerous statutory changes as well as policy and rate adjustments by CAWCD have been implemented over time to mitigate this uncertainty. In 2003 and 2005, statutory changes were made to strengthen the ADWR Director’s oversight and approval of the CAGRDR Plan of Operation. Changes included requiring the CAGRDR to identify water resources potentially available for the subsequent 80 years after the first 20 years of identified water resources and allowing the Director to require a revised Plan of Operation if there is either an unexpected increase in projected replenishment obligations or an unexpected reduction in water supplies available to meet the CAGRDR’s obligations.¹²

The CAGRDR has worked to continues to acquire supplies and build a portfolio of supplies that is expected to be sufficient to meet its annual replenishment obligations in the coming decades.¹³ In its early years, the CAGRDR met its replenishment obligations primarily through the use of Excess CAP water because it was available, inexpensive and its use helped to advance the State’s objective of fully utilizing Arizona’s Colorado River entitlement. In recent years, the availability of Excess CAP water has decreased substantially, and it will likely be reduced or unavailable in the future.¹⁴ Fortunately, The CAGRDR has long planned for the reduced availability of Excess CAP water and for future Colorado River shortage impacts to its other supplies. This is evidenced by the establishment of its formal water acquisition program and its requirement to develop a replenishment reserve of long-term storage credits that can be utilized to meet its obligations and enhance rate stability in times of water supply shortage or infrastructure failure. Its acquisition program is guided by principles adopted by the CAWCD Board that seek a

⁹ In its 10-year Plan of Operation, CAGRDR is required to show replenishment supplies in hand to meet replenishment obligations for 20 years as well as identify potentially available supplies for the subsequent 80 years.

¹⁰ It should be noted that a 50-year non-declining CAP M&I subcontract, although potentially subject to shortage during drought on the Colorado River, is by rule considered to be a continuously available 100 year supply (A.A.C. R12-15-717(D)3) and a legally available 100 year supply (A.A.C. R12-15-718(F)).

¹¹ The 2005 and 2015 Plans of Operation both discuss this mix of supplies.

¹² Such a finding can only be made between the second and eighth year of the current Plan of Operation. A.R.S. § 45-576.03(R).

¹³ CAWCD Board Information Brief, November 19, 2020, pg. 12, <https://www.cap-az.com/documents/meetings/2020-11-19/1827-111920-WEB-Final-Packet-CAGRDR.pdf>

¹⁴ CAGRDR 2019 Mid-Plan Review, p. 17.

50/50 mix of short-term and long-term supplies in anticipation of projected increases in replenishment obligations.

These efforts have ~~proved successful, produced to date,~~ the CAGRDR has ~~acquired ing to date~~ over 250,000 acre-feet of the 764,502 acre-feet ~~targeted~~ amount for the Replenishment Reserve in the 2015 Plan of Operation. Under its acquisition program, the CAGRDR has acquired a total annual supply of approximately ~~14,000 acre feet per year in excess of its obligation~~ (44,000 acre-feet per year compared to the ~~CAGRDR's~~ average annual replenishment obligation of approximately 30,000 acre-feet per year).¹⁵ In addition, the CAGRDR has pending a Non-Indian Agricultural reallocation of 18,185 acre-feet per year and a lease from the White Mountain Apache Tribe for 2,500 acre-feet per year.

Formatted: Font: Bold, Italic

The CAGRDR has also made adjustments to its policies and rate structure to mitigate for the uncertainty of future available supplies and their cost. For example, between 2015 and 2019, Activation Fees (paid by homebuilders ~~prior to issuance of a building permit for a residence~~) averaged a 33% increase per year for the Phoenix and Pinal AMAs, and a 27% increase per year in the Tucson AMA. Stakeholders, ~~including homebuilder and developer representatives,~~ agreed to this change during the development of the 2015 Plan of Operation in order to collect a more significant portion of funding for ~~future~~ water supplies prior to homes being built and replenishment obligations being incurred. ~~This provides~~ ~~more equity among the CAGRDR's members (i.e., future members pay more up front for more expensive supplies without being subsidized by long term members)~~ and ~~ensuring that~~ the CAGRDR ~~would have~~ ~~has~~ the funds necessary to purchase the additional replenishment supplies for the new obligation.

These incremental changes over the years have served to lessen the impact of the uncertainties in the future availability and costs of replenishment supplies for the CAGRDR. ~~However, We know that Post 2025, there is likely to be with~~ increased competition for limited supplies, rising acquisition costs, and the ~~growing risk~~ ~~potential~~ of reduced Colorado River supplies. ~~It is important concern remains that the steps are taken to date to mitigate this uncertainty may not be adequate in for the long-term. It is important in order and that more may need to be done~~ to ensure the viability of the CAGRDR for its current members.

~~Competition between CAGRDR and its member water providers or between CAGRDR and water providers that do not rely on CAGRDR is often cited as a problem. In addressing this, however, it is critical to assess: (1) CAGRDR's role in reducing competition for supplies; (2) whether there is a significant difference in the cost of supplies if CAGRDR acquires supplies versus a municipal water provider acquiring those supplies; and (3) whether CAGRDR as a well-funded water acquisition entity has better resources to identify and develop water supplies than individual municipal providers do.~~

ISSUE DESCRIPTION

~~As referenced above, the CAGRDR is responsible for has a unique responsibility to securing~~ replenishment supplies to ~~offset balance~~ the amount of excess groundwater used by its growing membership. The Post-2025 AMAs Committee has identified three main questions related to the long-term availability and costs of renewable supplies for the CAGRDR and its members to provide a starting point for evaluating opportunities for improvement that would benefit ~~the CAGRDR, its members and future~~ AMA water management.

¹⁵ CAGRDR 2019 Mid-Plan Review.

What are the long term uncertainties for the CAGRDR related to the availability of renewable supplies for replenishment?

Are there long-term uncertainties for the CAGRDR related to the availability of renewable supplies for replenishment and if so, what are they?

Formatted: Font: Bold, Italic

Formatted: Font: Bold

It is theoretically possible that in the future, groundwater could be more plentiful than renewable supplies available for acquisition. This is one unique aspect uncertainty that the CAGRDR faces as it seeks to acquire new supplies. Post 2025, it will be important to be mindful is that groundwater could theoretically be more plentiful than renewable supplies, such that new AWS determinations that rely on CAGRDR could continue to be issued based on physically available groundwater, while the CAGRDR continues to develop be tasked with developing an equivalent renewable supply for replenishment in an increasingly competitive and price-sensitive market beyond when it is reasonable to do so. In other words, if groundwater supplies continue to be available to meet the demands of new MLs and MSAs, there is the potential for a future shortfall in replenishment supplies for CAGRDR members to remain consistent with the AMA management goal. However, the Plan of Operation and the Mid-Plan Review present opportunities to address this issue prior to such an event occurring.

The CAGRDR's 2015 Plan of Operation identified substantial supplies as potentially available in the long-term, some of which would be more firm than CAP supplies.¹⁶ Yet, it is becoming more evident that post 2025, the quantity and accessibility of renewable supplies realistically available in the future are as uncertain for the CAGRDR as for other water users. Fewer available water supplies for acquisition beyond 2025 will likely lead to increased competition among the CAGRDR and other entities seeking additional supplies for future use including large industrial users and municipal and private water utilities.¹⁷ In some cases, these entities are also CAGRDR members or serving CAGRDR member lands. The difficulties of acquiring these supplies beyond 2025 are compounded by the current complexities and contention surrounding the transfer of Colorado River water from the river to Central Arizona. Opposition from On-river interests to Colorado River mainstem transfers and the increasing cost of such water supplies may also have an impact on future CAGRDR acquisition activities.¹⁸ This is why it is critical to develop mechanisms to facilitate – and support – transfers of water rights allowed Arizona and federal laws and regulations.

At this time, the CAGRDR appears to have sufficient supplies to meet its annual replenishment obligations until 2050.¹⁹ However, undoubtedly, if future supplies become more limited or unavailable for acquisition by the CAGRDR after 2025, there is the potential future risks exist for certain communities that rely on the CAGRDR for new development and economic growth. If this were to happen, compliance with the AWS would be in doubt, in that they would not be able to comply with the AWS Program. If in the future, because of severe drought, increased competition and political opposition, As designed, if the CAGRDR is not successful in identifying sufficient available supplies to support new and existing membership per statute, new development will halt, and current Designations of AWS will likely be in jeopardy. While highly unlikely, it is possible Depending on the amount of supplies available to the CAGRDR, that a certain amount of incurred and future obligation may not get

¹⁶ CAGRDR 2015 Plan of Operation, p. 4-14.

¹⁷ Long-Term Water Augmentation Options for Arizona, Prepared for the Long-Term Water Augmentation Committee of the GWAICC by Carollo Engineers, Montgomery & Associates and WestLand Resources, Inc., <https://new.azwater.gov/sites/default/files/Long-Term%20Water%20Augmentation%20Options%20final.pdf>.

¹⁸ CAGRDR 2019 Mid-Plan Review, p. 2.

¹⁹ CAWCD Board Information Brief, November 19, 2020, pg. 12, <https://www.cap-az.com/documents/meetings/2020-11-19/1827-111920-WEB-Final-Packet-CAGRDR.pdf>.

replenished.²⁰ ~~The Plan of Operation – and the management and oversight by the CAWCD, as well as ADWR – would work to prevent this from happening. This would most likely have Given the potential~~ negative impacts on future development in areas without access to renewable supplies, and ~~the importance of that development~~ on the State’s economy as a whole, ~~it will be important to ensure the future success of theas well as contribute to increased volumes of unreplenished groundwater pumping by existing members of the~~ CAGRDR.

~~What issues may arise as replenishment supply costs are borne by the CAGRDR and passed on to its members? If replenishment costs continue to increase as expected, what issues may arise for the CAGRDR and its members? How significant are they and what could be done to solve or mitigate them?~~

~~Since~~ The CAGRDR has ~~an ongoing acquisition strategy to meet the~~ perpetual obligation to replenish excess groundwater used by its members, ~~it must continually acquire replenishment supplies to meet that obligation. Post 2025, the~~ costs for such acquisitions are anticipated to increase as availability of renewable water supplies decreases. ~~Since~~ The CAGRDR is not a water provider, ~~and its revenue structure is also different from that of a municipal water provider. The CAGRDR collects revenues through up-front fees paid by the landowner or developer, through annual membership dues, and through either an annual replenishment assessment (on ML property owners) or an annual replenishment tax (on MSAs) based on replenishment obligation volume. For an ML homeowner, the CAGRDR replenishment costs are incurred in addition to the monthly water service cost paid to the member’s water provider.~~²¹ As such, long-term replenishment costs ~~are shared~~ ultimately must be borne by ~~developers, the~~ CAGRDR member homeowners (MLs) ~~and/or~~ water providers (MSAs). ~~For an ML homeowner, the CAGRDR replenishment costs are incurred in addition to the monthly water service cost paid to the member’s water provider.~~

For MLs, rising long-term replenishment costs might serve as an incentive to use less excess groundwater. However, after the development of a subdivision, the financial responsibility of CAGRDR membership is borne by the ML homeowner and paid via property taxes to the county assessor’s office. ~~This is similar to when a developer pays for and installs new roads, and then conveys them to local government and the homeowner pays for maintenance through taxes.~~ This structure ~~was put in place to create~~ revenue certainty for the CAGRDR ~~in its revenue streams. Similar to how other taxes are assessed and put to use, this structure could create a disconnect for~~ But for the homeowner as it relates to the cost of operating a local government or the CAGRDR, ~~this structure can~~ Paying replenishment assessments through the property tax can also create a disconnect between water use and its full cost. It ~~will be important for the CAGRDR to continue its efforts to educate homeowners about related charges on the property tax bill as well as programs designed to encourage and does not~~ incentivize water conservation, ~~but rather hides the true cost of a renewable water supply in a property tax bill, often paid through a mortgage. The disconnect between water use and water cost through the CAGRDR has the potential to inflate the replenishment obligation of the CAGRDR.~~

The CAGRDR has the financial authority to meet its replenishment obligations, ~~but little~~ Ongoing analysis has, ~~and will need to continue to be~~ done regarding the growing fiscal impact to its members over the long-term. ~~This is important to minimize financial and how in turn that could~~ stress on the CAGRDR’s structure in the future. The CAGRDR’s assessment rates increase annually to keep up with costs associated with expanded CAGRDR requirements, including funding the Replenishment Reserve and the establishment of the water supply acquisition program, as well as its annual water supply costs. As an example, the CAGRDR calculated that the 2018 acquisition

²⁰ The CAGRDR is not subject to the drought exemption that is available to Designated Water Providers. However, the CAGRDR would continue to incur the responsibility to eventually replenish the excess groundwater used by its members.

²¹ However, these water providers do not generally incur the cost of treatment and distribution of surface water supplies, leading to significantly lower water rates than those charged by water providers who incur these costs.

Formatted: Font: Bold, Italic

Formatted: Font: Bold, Italic

Formatted: Font: Bold, Italic

Formatted: Font: Bold

Formatted: Tab stops: 3", Left

of water and credits from the Gila River Indian Community and Gila River Water Storage LLC for a 25-year period would increase the CAGRD Phoenix AMA members' combined rates by 11-15 percent over the next two to three years.²² Although the actual rate increase in the Phoenix AMA has been lower than expected since that time, this demonstrates the CAWCD Board will most likely need to consider additional acquisitions with sizable impacts to CAGRD rates. It will be important when assessing the significance of these increases to compare them to the cost of water statewide.

As replenishment costs increase, some members and large water users are starting to seek ways to reduce CAGRD costs. Since the CAGRD's current rates are bundled and assessed on the volume of reported excess groundwater, some members with larger water demands have pursued temporary avoidance of CAGRD replenishment obligation by acquiring short-term supplies like long-term storage credits (LTSCs) or extinguishment credits (ECs) to offset the amount of excess groundwater they report to CAGRD. This more recent practice can impact CAGRD members because the fixed costs of CAGRD replenishment are redistributed over fewer members. If this practice grows in the future, CAGRD has concluded it could weaken its ability to financially sustain itself.²³ Overall, increasing water costs are not unique to the CAGRD but the impacts of how those costs are assessed on its members, often as a second charge for water use, and the implications for the CAGRD financial structure in the future are unclear. It will be important to monitor this and implement strategies to prevent weakening of the CAGRD's financial sustainability if necessary.

What improvements could be made to ADWR's oversight and review criteria of CAGRD Plans of Operation that would improve the long-term viability of the CAGRD or reduce uncertainties for its new and existing members?

Beyond 2025, it will be important to ensure the long-term viability of the CAGRD and reduce uncertainties for its new and existing members. Are improvements needed to the CAGRD Plan of Operations and ADWR's oversight that would help ensure this? If so, what are they?

Formatted: Font: Bold, Italic

Formatted: Font: Bold

Under ~~the existing~~ laws, the Director of ADWR must determine whether the CAGRD Plan of Operation is consistent with achieving the management goal of each AMA in CAGRD's service area. This action provides oversight on whether CAGRD has the water supplies and financial ability to meet its replenishment obligations. An approved Plan of Operation also determines if enrollment in CAGRD may continue and details the water supplies required to meet the replenishment obligations of those enrollments. If ADWR were to determine that the CAGRD Plan of Operation is not consistent with the management goal, a moratorium would be imposed on the enrollment of new members lands and cause the expiration of designations of AWS based on CAGRD membership, pursuant to A.R.S. § 45-576.06(A). Such a determination is viewed as a "worst case" outcome. however, and if this were to happen, it could be detrimental to the state's economy and complicate efforts to resolve the issues related to the Plan of Operation. Therefore it is imperative to work together to ensure the success of the CAGRD post 2025. As has occurred in the past 20 years when the CAGRD's statutory duties were revised and expanded, if necessary, revisiting ADWR's oversight of CAGRD, including the criteria used by ADWR to review the CAGRD's Plan, could be done with the goal of providing suggestions to improve the long-term sustainability of the CAGRD for the benefit of its current and future members.

²² Central Arizona Water Conservation District Board of Directors Action Brief, *Discussion and Consideration of Action to Approve a Water Supply Acquisition and Association Agreements between CAGRD, Gila River Indian Community (GRIC) and Gila River Water Storage (GRWS)*, November 1, 2018.

²³ CAWCD Board of Directors Information Brief, Report on and Discussion of Elliott D. Pollack & Co. Impact Report on Third-Party LTSC Sales to CAGRD Member Lands, Feb 16, 2017.